THE UNIVERSITY OF MISSOURI BULLETIN

Toward Better TEACHING *in College*

Edited by
Elmer Ellis

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by

ELMER ELLIS

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THE COMMITTEE FOR THE IMPROVEMENT OF INSTRUCTION
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INTRODUCTION

This booklet began as a mimeographed publication of addresses given before the faculty of the College of Arts and Science. These were sponsored by the Committee on the Improvement of Instruction of which Professor Edward M. Palmquist was then chairman. This original mimeographed publication was revised and greatly enlarged under the direction of Professor Palmquist and Donald F. Drummond in 1951 as a tool for use in the University of Missouri-Carnegie Foundation for the Advancement of Teaching program for improving college teaching. This has been reprinted once, but it has proved difficult to keep up with requests for copies for use both in Missouri colleges and those in other states. The second printing was completely exhausted by August 1953, and it was decided that the publication should be revised before another printing was arranged.

Most of the articles have been revised extensively and the new ones by Ballew, Benjamin, Drummond, and Karsch have been added. The article by the late Theo. W. H. Irion has been extensively rewritten by his son, Arthur L. Irion, Professor of Psychology at Tulane University. It is hoped that the new edition will be more useful in the program of encouraging college teachers to become more competent instructors.

It should be kept in mind that these lectures represent only a small part of the program for improving instruction directed by the College committee. In addition to Professor Palmquist (Botany), Paul B. Burcham (Mathematics) and Robert F. Karsch (Political Science) have served as chairmen. The membership of the committee has changed from year to year and a large number of the faculty have made significant contributions to the program. Whatever merit it has had has grown out of faculty interest and initiative.

Portions of the contents have appeared in the *Bulletin of the American Association of University Professors,* in the *Journal of General Education,* and in Aly, B., Gilman, W. E., and Reid, L. D. *Fundamentals of Speaking* published by the Macmillan Company. Permission to use this material is gratefully acknowledged.

E.E.

THE CHARACTERISTICS OF GOOD TEACHING IN THE COLLEGE

Elmer Ellis

Trying to tell a group of fellow teachers how to teach might well be classified as a hazardous occupation. It is, it seems to me, precisely because we have so little discussion of college teaching as a procedure on our university campuses, that we have much inefficient teaching. For that reason, I welcome this plan of the Committee on the Improvement of Instruction. If it does no more than make a number of members of the faculty acutely conscious of the teaching problem, it will, I believe, more than justify itself.

Perhaps I can justify myself, the committee, and its program by appealing to the history of our profession.

During great periods of educational activity in universities, faculties have interested themselves in the skills of their profession. They even have gone to what would seem to us a foolish extreme to specify methods of instruction. For instance, at the University of Paris in 1355 nearly six centuries ago, the faculty tried two methods of lecturing in the Arts, one in which the lecturer spoke as fast as his students could follow with understanding, and too fast for note taking, and the other, where the lecturer spoke as fast as his students could copy his remarks. Having decided in favor of the speedier method—the faculty enacted penalties for those of their number who did not conform. It is not surprising that, being an experienced and realistic faculty, that body also enacted penalties for students who attempted to interrupt these rapid lectures "by clamor, hissing, throwing stones, or in any other way."

Most of us older teachers learned what we know about teaching from observation and experience, useful methods but expensive ones—expensive in classes that were badly taught as we made our mistakes, and as we can all see, expensive in the faculty people who never caught on to a respectable procedure by that trial and error approach.

No doubt we should have learned more than we did from observation. Just as O. W. Holmes, the poet, insisted that his judgment on matters of religion was expert because he had listened to sermons twice each Sunday for forty years, and that represented more training than had been required for him to enter the profession of medicine, so we might argue that having lived in classrooms and laboratories for twenty years, we were already trained by sheer observation. I believe this might be true, but it is not because few, if any, of us ever looked at our classrooms then from the teacher's side of the desk. We never asked ourselves the right questions: What is he trying to do to us? What is his procedure for doing it? And why does his procedure succeed or fail?

On first consideration, it seemed to me that any brief discussion of the characteristics of good teaching which I might make would be little more than trite observations on topics with which each one is familiar. I might have believed that,

had I not served on the University Committee on Accredited Schools and Colleges for several years and visited large numbers of junior college classes taught by teachers with much of the same training and background as our own instructors. The number of times I have seen teachers with some experience fail to observe even more elementary things than I shall discuss this afternoon, convinces me that the bad teaching practices sometimes reported to the deans' office by students are not entirely imaginary: Failure to light and ventilate the classroom as well as possible, to start and dismiss class on time, writing on the blackboard while standing in front of it, and even erasing what one writes before he moves aside so that the class can see it, and using exceedingly wasteful methods of taking the class roll are met with much more than rarely.

Some years ago, we had an English instructor here, who, as usual, was assigned four sections to teach. Toward the end of the year, it was discovered that all year he had followed the practice of taking the roll by taking to each section all the course cards for his four sections, and calling off all 100 names for each section. I never could conceive of any reason for this except that he had nothing better with which to occupy the students' time.

My experience has shown too, that many teachers do not accept suggestions for improvement with pleasure. At the special request of the dean of a junior college, I once visited a history class taught by a well-trained teacher who had resumed teaching after several years of administrative work. I slipped into the back of the room and sat down among a group of students who were either writing letters, reading, or playing tic-tac-toe. The teacher sat at his desk with his nose glued to his open textbook, from which he asked questions only after he was certain he himself had checked the answers. Occasionally, he would point across the room in the general direction of a map. At the end of the hour, I had no opportunity to talk with the teacher alone, as his dean joined us for lunch. Feeling sorry for the pitiable exhibition of the teacher, I wrote him a personal note that evening, couched in the friendliest tone I could command, and telling only as much about his teaching as I thought his morale could stand. I did suggest that he ought to wean himself from the textbook, and indicated that he might try standing rather than sitting, and by walking away from the open book on the desk for periods of time eventually free himself from dependence upon it. After some time, I received a stiff-necked answer to the effect that he had studied under some of the greatest historians in America, and that they all sat down while teaching!

At the risk of belaboring the obvious, I want to defend the propositions that good teaching is founded upon a real mastery of content, it has clearly grasped purposes, it begins with the knowledge that students actually have, it induces students to believe that the course is useful to them, it adapts itself to individual differences, it is carefully planned, it is kept stimulating to the teacher because he is an experimentalist in methods of communication, it avoids several enticing substitutes for teaching, and it is characterized by proper grading.

Let us start with the first requirement that the teacher know the content he

is teaching thoroughly and completely. All our administrative structure, our graduate training, our accrediting and personnel policies, are based upon that requirement. If that principle is false, colleges and universities have outlived their usefulness, and the newspaper, radio, and movie may as well take over. It should require no elaboration here.

The second characteristic of good teaching is consciousness of purpose. It is all too easy and too usual a practice to become a routine lesson presenter who rarely thinks of the basic purpose of arts education or of the place his course, or, more specifically, the twenty-first lesson in his course, has in achieving that purpose. As a result, the teaching is badly directed and wasteful of the students' time.

Teaching, let me suggest, is directed at modifying the behavior of students by changing the method and the concepts used in their thinking. It is an excellent practice on the part of any teacher, especially a beginning teacher, to formulate in writing the exact changes in students he expects to bring about by the course he is teaching, and to consider how these fit in with the more general purposes of the Arts College. It is desirable to formulate these in preparing each lesson, for a time at least, and state them in terms of the modification of behavior.

Another characteristic of sound teaching is that the teacher must begin where the students are. Teachers are likely to assume that because the members of the class have all had other courses, the content of these courses, in terms of recallable facts, is available to all, or virtually all, of the class. This is almost never true, especially not in the fall semester, when a summer or more has intervened since the previous course. What happens when a teacher starts the course out ahead of the class is that it bogs down in a short time and then the teacher must start back where he should have started in the first place. If he does not do that, the class never gets under way and only a few students are able to master it in a satisfactory way. One of the first steps in dealing with a class, then, is to find out where the majority of the students are in respect to the purposes of the course, and to use that as a starting point. Realism here is a great aid to classroom achievement.

Good teaching must be motivated—that is, the student must believe it has some real value to him. He finds it interesting if he perceives that it is useful to him. Contrary to academic folklore, students do not believe that most of our required courses are useful, as every discerning adviser knows. The student accepts the adviser's opinion as the least of several evils, and the task of the teacher is to convince him that the course is useful. Failure here on a teacher's part is about fatal for the course. A large measure of enthusiasm for the content of the course on the part of the teacher himself will always pay dividends. Students may feel that he is a bit of a screwball on the subject, but they will expect that anyway and have a large measure of respect for him because of it.

I believe many instructors kill any possibility of developing this conviction by negative suggestions. A friend of mine on a neighboring campus has taught a course in economic history, required of ags and engineers, for many years. His usual start is a truculent declaration that he knows that none of the class want the

course, that they would not take it were it not required of them, that he does not expect them to like it, and that he certainly does not expect them to do well in it. To date he has not been disappointed!

A necessary characteristic of good teaching is that it takes into consideration the varying abilities and interests in the class. Many teachers concentrate too exclusively either on the very poor or the very good, to the neglect of the great majority.A common evil, because it is pleasant for the teacher, is to fall into the habit of informal discussions with the few exceptional students in the class, to the neglect of all the rest. Others use whatever method they have at their command, regardless of personalities; the brash and the timid, the plodder and the superficial, the inarticulate blunderer and the glib talker, are all treated alike, regardless of the damage done. The ideal of good teaching is to bring about the maximum change in the right direction possible with each student. Each class is merely a collection of individuals with many uncommon characteristics. One of the highest levels of skill in teaching is the ability to adapt our procedures to varying personalities. Even in a large lecture course, substantial adaptations are possible; the character of the lectures, the assignments, and the tests all furnish opportunities for adaptations.

A well planned and prepared lesson is essential to any good class session. Many class periods require preparation in content; all of them require preparation in approaches to use in teaching. Here is an all too common source of failure. Little planning and preparation leads to improvising and bluffing. Improvisation by the teacher is the normal substitute for preparation and rarely fools the stupidest student. Where improvisation is chronic and draws its materials from autobiography, as has been so well said, teaching sinks to its lowest level. There is no substitute for hard work in preparation for teaching.

A characteristic of good teaching is that the teacher becomes an experimentalist in methods of communication. We all know some one artist in teaching, perhaps, who, on his twentieth year of teaching, can derive a formula with all the enthusiasm of personal discovery that he had before he had done this some two or three hundred times. But these people are rare. To most of us, teaching undergraduates is going to seem more and more like the elucidation of the obvious. The thrill of personal discovery in teaching can come to us only in the most advanced graduate instruction. But there is one way of preserving intellectual vitality, even while teaching over and over again some simple concept, and that is in the teacher's experiencing each repetition as a new problem of communication, to try new ways of making the concept clear, new ways to get students to reach the familiar conclusion with a sense of having made their first discovery. It is only in this way that most of us can keep teaching an ever stimulating experience.

We should beware of certain common substitutes for teaching. One of these is entertainment. Wit and humor are some of the finest tools in a good teacher's workroom, but a few teachers are deceived by their good results into attempting to substitute what the teacher may imagine is entertainment for instruction. It will be popular with the lazier portion of the class, but it is well to remember that Fred

Allen and Bob Hope are tough competitors and we had better keep our classroom performance in a realm where we have more competitive advantages.

Another substitute is indoctrination. It is so much easier to teach conclusions than it is to prepare students for some degree of independent self-reliance. It has a short-run popularity, too, as students always prefer ready made answers to an assigned task that requires laborious thought. Moreover, it is all too human to desire to make disciples of students in the social sciences and humanities, and some of us quickly learn that there is a degree of student popularity for a teacher who has glib answers to all questions, even those which all scholars in the field admit are unanswerable.

Sidney Hook in *Education for Modern Man* has an interesting statement on this point, which is worth quoting.

"Educators, like all other citizens cannot avoid taking a position on the central issues on which men divide. But their task as educators is not to preach any solutions they hold as citizens. Their duty is so to teach that, on the appropriate levels, students become aware of the central issues of their culture, habituated to scientific inquiry into the consequences of proposed solutions, sensitive to the values involved in these solutions and affected by them, and courageous in accepting the conclusions to which method and insight lead.

"In the last decade, more than one class of students has been punished for the tortuous intellectual pilgrimages of their teachers—particularly at the hands of a certain school of militantly doctrinaire teachers who, despite the fact that their opinions veer as if by order from year to year, regard themselves as qualified to settle the most delicate problems of economics, politics, history, philosophy, and religion with a zeal and confidence that specialists, handicapped by genuine knowledge, shrink from assuming."

Another substitute for teaching is what I shall call busy work, that is, an assigned task, desirable under some circumstances, that becomes an end in itself in the teacher's procedure. Among such tasks are blind routine reading assignments in the library, laboratory exercises that teach nothing new, elaborate graphic representations of concepts already learned, and any exercise which does not promote desirable behavior changes. A substantial number of teachers who pride themselves on the large amount of work they require from students would, if they would reexamine its educational value from a fresh perspective, speedily modify much of it. Let us be sure our required exercises directly promote our educational purposes, and let us review each one anew before we reassign it to a new class.

A final characteristic of good teaching is proper grading. Any teacher who fails to carry the conviction to his class that his system of grading is fair and reasonable might better try some other occupation. To be fair and to be useful, grading must be reasonably uniform from teacher to teacher. The Missouri grading system is based upon a theory that student achievement can well be measured by grouping the middle half of the class in one category, to which M is assigned as a grade. The 25% whose achievement is better than the middle group is assigned grades of E and

S. The 25% whose achievement is worse than the middle group is assigned grades of I and F. I make no particular defense of this system. It is the norm and, in general, departments and instructors do conform closely to it. Departments differ, I believe, in their application of it to upperclass courses. Some distribute grades here, also, according to the plan. Others assume that the high fatality rate of the first two years has eliminated most of the chronic "F's" and tend to distribute grades more heavily to the upper part of the scale. I believe either method can be defended; the teacher should find out which is practiced in his department and, in general, conform to that.

I cannot leave this point without some warnings. The system does not require a teacher to limit his grade to a certain percentage of I's and F's. In classes of the usual size, it is a general guide only. The presumption is only that our grades on a large number of unselected students will approximate the plan. One refuge to which some teachers foolishly resort is to expand the middle group to include much more than half of the class. I have even heard—I am not sure it has actually happened outside of small classes—of teachers who gave nothing except M's. This, of course, represents a teacher's unwillingness to perform one of the most difficult teaching tasks—that is, evaluating the work of students. Students have a right to better treatment, and there cannot be good teaching without it.

Do not imagine that you can escape the necessity of subjective judgments and absolute standards, no matter how objectively you rank your students. We still have to draw lines to separate our F's from our I's and our E's from our S's, and when we draw these lines, we are making the subjective judgment that the quality of the work of student X is too poor to justify the distinction of an E. I do not know of a more difficult task than making these judgments, and I do not think you can do sound teaching without making them.

These, then, are major characteristics of good teaching: it is founded on content mastery; it has clearly visualized purposes; it begins where the students actually are; it convinces the students that the work is useful to them; it adapts itself to the varying abilities and personalities of the class; it is carefully planned and prepared; it is kept a stimulating experience to the teacher because he is an experimentalist in methods of communication; it avoids the trashy substitutes of entertainment, propaganda, and busy work; and finally, it is characterized by proper grading.

Whether the college teacher can make himself a master teacher is entirely up to him. It is difficult to see how anyone with the intelligence to secure advanced degrees should fail to develop a fair measure of skill. Each class he meets is a laboratory for his own experimentation. The different approaches he can use are limited only by his constructive imagination. Many of his results can be evaluated almost immediately. If they are not good, he can try a different approach tomorrow. He is master of his own teaching; he is director of his own laboratory. There are few places in this world, I believe, where intelligent work can be so promptly translated into satisfactory results.

THE IMPROVEMENT OF CLASSROOM MORALE

Loren D. Reid

The morale of a class is high when both students and teacher approach the hour with interest and expectation. The morale of a class is low when little enthusiasm exists on either side of the desk.

The causes of poor morale are basic, growing largely out of fundamental deficiencies of knowledge or interest on the part of the teacher. The outward symptoms of these deficiencies take varied forms; the types of teachers that follow have been reported to the writer by students from many different campuses.

1. **The Ghost.** A perennial complaint of students is that they never become really acquainted with their teachers. In a surprising number of instances the student never learns the name of his teacher. If the instructor makes no effort to introduce himself to his students, and if he discourages questions, issues no invitations for conferences, keeps the discussion on an impersonal tone, and departs immediately at the ringing of the dismissal bell, he may never reveal his identity. Instructors like these may be described as ghosts, an apt name, since their classes are lifeless and spiritless, with classroom morale invariably low.

To be a ghost teacher, an invisible man on the face of the campus, is in itself a major tragedy. It is a commonplace that a reward of good teaching is the satisfaction of being able to exert some influence upon the lives and careers of young men and women. Less appreciated is the fact, that, in a favorable atmosphere, students also make a powerful impact upon the teacher; their questions and their problems lead him to see even richer possibilities in his field of interest. If classroom instruction becomes an impersonal, routinized, one-way transaction, half the pleasure of teaching is lost.

2. **The Wanderer.** Another outward evidence of poor morale is the result of inadequate planning. In their hall of shame students include teachers that can be described as wanderers. Assignments are not clear, lectures ramble, examples and problems are impromptu. The sharpest criticism that can be made of a teacher is to imply that the time spent with him is not worth while.

Course planning may be discussed at both a low level and a high level. For a picture of low-level planning, consult almost any work on the art of teaching, and read what is said about the preparation of a mimeographed syllabus, the working out of a detailed series of assignments, the giving of lectures in ordered fashion. During the fourth week a test will be held Friday; during the tenth week an original paper is due Wednesday. The opening words of Monday's lecture represent a forecast of the coming unit of work; the closing words of Friday's discussion constitute a review of the ground covered.

This type of procedure, although so simple as almost to be mechanical, is highly prized by students. In such a course, they say, " we know where we are," or to put it differently, "we know what to study for." The approach is systematic,

workmanlike, well-ordered. If the content is equal to the plan, the morale of the course is almost certain to be above average.

High level planning reaches upward to course aims and philosophies. Above and beyond the Monday-to-Friday presentation of facts, the teacher asks himself, "What am I really trying to say to my students? Since they may forget many of the details, what attitudes, concepts, or points of view can I get them to remember?" Accordingly, he works into his daily planning occasions for showing relationships, applications, and interpretations, all done so as to develop the course without aimless talking about things in general.

Most students put at the top of the list a course that has a systematic presentation of knowledge plus this broad point of view.

3. **The Echo.** Students sometimes describe a type of teacher who routinely repeats in the class the material assigned in the text. In such a course, morale is certain to sink, for if a student cuts class he can get the same ideas merely by reading the book. The criticism may not apply to highly technical courses where the text itself needs amplification and interpretation, but it does apply to courses where the material is simple exposition or narration.

A teacher may become an echo because he is overawed by the text; he may not yet have the experience to think about his subject in an original way. If he follows the text routinely, his course may have a reasonable amount of logical development, if the text itself has any, but he can hardly escape the charge of boring his students. The solution is to amplify, expand, and adapt the point of view of the text—not to the extreme of setting up an entirely different system, but at least to the point where classroom lectures and discussions become more significant than text assignments.

4. **The Autocrat.** At times a teacher adopts an attitude toward his students that is out of keeping with good learning. Instead of considering the students as junior partners in a common enterprise, he surrounds them with rules as if they were inmates of a penal institution. Some restrictions or special procedures always seem to be necessary, but a thoughtful teacher can present them as an aid to mutual understanding, not as a device to shackle the student in advance. The enforcing of unusual standards of behavior, the making of unreasonable or unseasonable assignments, the discourteous handling of questions, the sarcastic treatment of fumbling answers, the arbitrary using of grades as punishment, the setting up of standdards far beyond the capacities of the students, may all be signs of an autocrat in the classroom.

One student concluded his complaint of an autocratic teacher in somewhat the following words: he wished this teacher would imagine his students as they will appear in ten or twenty years, men and women well-established in their own fields of endeavor. Would the teacher then, concluded the student, want to be remembered as a fussy and small-minded individual?

Commentary. The faults of teaching described above have been generalized loosely from the comments of many students. Although the discussion gives the

impression that these undesirable characteristics abound, they are, in fact, fairly infrequent. A junior, for example, looking back over his years of college, might single out two or three of his teachers for adverse comment. Once a student survives the hurdle of required courses and begins to specialize in the field of his major, his own interest makes him a more teachable person. He begins to come, furthermore, into the domain of older and more experienced teachers. Even so, the problem of improving classroom morale is a real one, and the suggestions given above may illuminate some of the troubles as the student sees them. The remedies may not be simple but at least they are close at hand.

SUGGESTIONS CONCERNING COLLEGE CLASSROOM MOTIVATION

Theo. W. H. Irion

The psychology of human motivation is a very complex subject. Without attempting to overwhelm you with a long and technical psychological discussion, I shall offer only a few practical suggestions about motivation in the college classroom. Please bear in mind that each suggestion has a definite psychological justification. It should also be noted that these suggestions do not apply with the same emphasis to other educational levels, to high school classrooms, for example, nor are they as aptly applicable in professional schools and colleges. These suggestions are meant to apply especially in a Liberal Arts College.

Suggestion 1. Motivation is a two-way responsibility. A student should not be in college if he is not of college material. More is implied in this statement than that the student should possess the intellectual ability to do college work. The student must also have those purposes and intellectual interests which can best be satisfied by attending college. The student who has cultivated a blase attitude in high school and is proud of it, who attends college because it seems to be the most pleasant way to spend the next four years, who is definitely intent on being bored, and who defies the teacher to motivate him, does not deserve much of the time and attention of the teacher. On the other hand, because such cases are not uncommon, teachers sometimes make the mistake of assuming that the majority of students are of this type. This is a convenient assumption because it relieves the teacher from one of his responsibilities, but it inevitably leads to poor classroom instruction. When the instructor notes signs of general lassitude and widespread boredom, when the students do grudgingly only what they are assigned to do and when their learning consists of verbatim reproductions of textbook or assigned reference materials, then there is a general lack of motivation for which, in all honesty, the teacher must hold himself responsible, at least in part.

Suggestion 2. Make allowances for Individual Differences in the Capacities of your Students. It is well known, of course, that people tend to engage in activities for which they have high talent more vigorously than in those for which they have little or no aptitude. This implies that the student with small ability is very apt to lag behind the rest of the class so that by mid-semester the subject matter of the course has become very nearly incomprehensible to him. It is not suggested, of course, that the instructor should pitch the course at the level of the least able student. Neither should the instructor devote large amounts of time to the salvaging of inferior students. Quite the contrary! It is the able student who deserves, and who should receive, the greater share of the teacher's time. On the other hand, an occasional conference with a student of low ability, if held early in the semester, may reveal some of the sources of the student's troubles and enable him successfully to complete the work of the course. In this connection, it is often helpful for the teacher to make use of the college testing program to get at least

a rough comparative rating of his student's abilities. Above all, you should be sure to discover and recognize genius which shows up in almost every university class. Such geniuses must receive additional stimulating tasks and responsibilities, are more deserving of individual attention than other students, and can often be a source of stimulation to other, less able, students. Devoting special attention to your superior students is the best educational investment you can make.

Suggestion 3. Try to Impart a Thorough Knowledge of the Technical Vocabulary of your Subject. It is wise to persist patiently in developing a thorough knowledge of the necessary technical vocabulary of your subject, especially at the beginning of your course when basic concepts are usually developed. Such patient work usually pays great dividends as the course progresses. You cannot afford to assume, as many teachers do, that your students have control of the technical vocabulary of your subject. This vocabulary may be large. In a plane geometry course (one semester) it includes about 450 to 500 words. A beginning science course may use a technical vocabulary of 1000 to 2000 words. Accustomed usage has made this vocabulary commonplace to the instructor and he is likely to forget that many of the words he uses may be entirely foreign to the experience of his students. Since the student frequently does not recognize the problem of acquiring a technical vocabulary and since, in any case, he cannot be expected to know the relative importance of the many words and concepts that are presented to him, independent study is rarely effective. In an introductory course, a great deal will have been accomplished if the instructor does nothing more than to impart to the student the basic concepts and vocabulary in terms of which further learning can occur.

Suggestion 4. Try to Develop Study Habits that are Appropriate to your Subject. Knowledge of how to study in general is of relatively little value. Usually it is necessary to teach your students how to study your particular subject. In nine cases out of ten, teaching how to study means teaching the student how to read. Ability in reading as reasoning is not acquired in general but must be learned specifically in every subject and in different aspects of the same subject. This is because the mental operations in reading change with every change of reading objective or purpose. A student may read very well for securing general impressions and for literary enjoyment. He may, however, not know how to read for securing pertinent factual data, or for the purpose of forming general judgments, or for the purpose of following specific directions in some process or operation. In other words, there are many different types of reading. If the student can't read the assignments except in a mechanical, meaningless, word-reading fashion, he cannot be motivated to do much work in your class. Conversely, however, as the student increases his reading power, he begins to improve and to develop his work at a rapid rate. That improvement serves as a great energizing, motivating force.

Suggestion 5. Clarify for Yourself and for your Students the Learning Outcome of each Recitation. Know what two, five, or six things the student should definitely learn as the outcomes of each recitation. These learning outcomes should be clearly outlined to the student. The learner should not feel that he **believes** that he is **learning something,** but he should **know** that he is learning and specifical-

ly **just what** he is learning. If the professor does not know specifically what the student is to learn in a recitation, if he merely wants to cover certain points or topics, that is what he usually does. He buries them. If he does not recognize definite learning outcomes, his students will not even attempt to guess what they might be. Indefiniteness never leads to sharp motivation.

Suggestion 6. Teach Positively Rather than Negatively. There are several aspects to this problem. In the first place, the only way a student overcomes incorrect learning is to learn to make the right responses. To point out errors may be necessary but, in itself, it is relatively valueless. It must be followed by learning the right things. For this reason, it is always better to emphasize right and correct responses rather than errors. In the second place, the teacher should give his students, individually, the satisfaction of knowing that they are doing well and succeeding when they actually are succeeding. Almost every student has a right to a certain measure of success, that success being commensurate with his abilities. He has a right to know when he is succeeding. To teach negatively in the sense of always being critical of the student's work is bound to lead to discouragement and low motivation. Thirdly, you should emphasize the useful and the sound and correct things in your courses. Modern college students respond aggressively to classroom work which is crammed with useful, true, and genuine information. Two-thirds of some courses are devoted to the study and analysis of antiquated discarded theories and to former but more recently abandoned positions. The student soon forms the habit of a negative learning set. He then begins to look for things that are not true. His whole intellectual set will be one of cynicism toward scholarly affairs or, at best, that of negative, non-constructive critical analysis.

Suggestion 7. Make the Recitation a Period of Active Learning. Learning is an active process and the learner must be the active agent. What the student learns consists of the new responses which he makes. You can assist him to make these new responses, but you cannot make them for him. In other words, people do not learn through passive absorption. They learn only by active participation in learning situations. When the professor tries to deliver to his students, by word of mouth, completed and perfected learning products, he merely stimulates verbalistic memory or rote learning. The recitation must be a period in which the student engages to the highest degree in learning activities of the exploratory and discovery type. Don't try to do the learning for your students. You cannot **learn** people anything, you can only **teach** them.

Suggestion 8. Remain Active and Creative in your Subject Matter Field. One of the benefits of creative work is that it leads to better teaching. The professor who has not remained a student, himself, cannot stimulate much learning activity on the part of his students. Even if the results of your studies or researches are not to be taught in your classes, such creative activity keeps you sympathetic with the student. Only a good, active learner can be a good stimulator and director of learning, and that is the work of a teacher. The moment you stop being a student of your subject, your courses start to become mechanical and routinized. It would be a pity if students could be motivated to do much work in such dead courses.

HOW TO IMPROVE CLASSROOM LECTURES FIFTY PERCENT

Loren D. Reid

To offer to improve classroom lectures fifty percent sounds like an audacious undertaking. So that we may be on common ground right away, let me make two preliminary observations.

The first is that I am not concerned at the moment with those ways of improving the lecture that grow out of the teacher's fund of information. The way to improve what is said is to read widely, to conduct research, to talk with colleagues at staff seminars and professional meetings, to reflect and write. Lectures should improve as the teacher's fund of knowledge becomes broader and deeper. And if a teacher learns to do original thinking about his subject matter, he may become not only a good lecturer, but a brilliant one. Yet because of the campus proverb, "He knows, but he cannot teach," we may profitably consider other ways of improving instruction.

The second observation is that the teacher should ask himself the question: "Is the lecture the best way of presenting this information?" Would it be better to plan a field trip, set up a demonstration, use slides or motion pictures, conduct a discussion, have four or five bright students present a panel, or even write out the materials and distribute them in mimeographed form? The lecture is not the only way of transmitting information; in many instances it is not even the best way. This paper, accordingly, is further limited to those situations in which the lecture has a fair chance of success.

Any group of teachers could sit down and list the many ways in which classroom lecturing can be improved. The list would include such arts of language as vocabulary, imagery, syntax, parallelism, repetition; such matters of organization as preview, subordination, transition, climax, summary; such principles of delivery as voice quality, rate of utterance, general physical energy and animation. As the list grew, the possibility of improving lectures fifty percent would seem more and more likely. This paper will discuss four categories of improvement chosen in part from personal observation and in part as a result of informal interviews with seventy-five students who received college instruction on twenty different campuses.

The Lecturer's Personality

In his *Rhetoric,* Aristotle states that the speaker's character is one of his most effective agents of persuasion. Listeners believe men of good sense, good moral character, and good will more readily than they do men of opposite traits. When I asked students, "What are the characteristics of the best classroom lectures that you have heard?" or "What are the reasons explaining why certain lectures are ineffective?" the answers often reflected opinions about the character and personality of the lecturer.

The good lecturer, these students pointed out, shows that he has the interest of his listeners at heart. At the beginning of the lecture, for example, good teachers

use many methods of arousing the interest of their students. Instead of plunging coldly into the topic, the lecturer might open by commenting upon a chapel talk that all had heard. He might refer to some campus or national incident. He might mention a pertinent clipping that he had run across, or a new book he had received. He might begin with a summary or forecast. He might tell a story. All of these methods start the student thinking, in as painless a way as possible, about the subject before the group. Some of my informants had observed that experienced teachers were more likely to do these things than were younger faculty members. The younger teachers, they reported, are often too serious, solemn, and dignified.

The personality of the lecturer is further shown by the way he answers questions. Good teachers welcome questions from the floor and answer them with some completeness, often bringing in rare details that otherwise might not have come into the discussion at all. A few teachers seem unhappy when a question is asked, blurting out such brief and inadequate answers that students hate to offend by further inquiries. Some teachers say, in chilling tones, "I discussed that last hour." Others use the familiar dodge, "I'll take that up later on." In some instances, "later on" may actually be the logical time to consider the question; but experienced teachers know that important items can be successfully repeated two or three times anyway, and the question provides a good motivation for one of the repetitions.

In many lesser ways, a teacher can show good will towards his listeners. It may help if he says, "Now this is a complex principle; I'm going to try to make it clear, but I want you to feel free to ask questions about any point that you do not understand." It shows good spirit for him to say, "We've had to spend a long time on this classification, but another half-hour will see us over the worst of it." Or his personality may express itself in entirely different ways; instead of using gentleness and patience, he may use humor, challenge, praise, mock seriousness, or some other approach.

Students are sometimes embarrassed when the teacher begins his lecture by apologizing for his inexperience. The chairman of the, let us say, Sanskrit department, who has grown white-haired in the pursuit of knowledge, and who has achieved renown for his scholarship, may in all truth open a class by saying, "I do not know anything about Sanskrit." Such a declaration would express the humility that comes to a scholar who has long pursued a difficult topic. If, however, a beginning instructor makes such a statement, students will take it at face value and vonder why they are so unfortunate as to have to study under an ignoramus. A teacher need not reveal the full scope of his ignorance on the first day of the course.

If teachers will treat a student simply as they would a colleague, they will have the proper mental attitude for good lecturing. If one thinks of his listeners as fellow scholars, he is less likely to scold, heckle, bait, or patronize them.

The Use of Examples

Illustrations, anecdotes, specific instances, and practical applications all add to the effectiveness of a lecture. One student mentioned a professor of philosophy who had a large fund of examples to illustrate faults of reasoning and types of propa-

ganda. Another mentioned a professor of history who frequently exemplified his points by parallel incidents from other centuries or countries. Another described a freshman English instructor with a ready supply of unusual ways of beginning themes, developing paragraphs, and ending themes. Another told of a scientist and his stock of interesting intellectual curiosities. Another related how a professor of sociology chose illustrations from many different trades and industries.

Academic circles give their widest applause to the professor who can discover great generalizations: new laws, principles, concepts, interpretations, theories. I recall a professor of Anglo-Saxon who with some feeling told a graduate seminar that he would consider his life on earth well spent if he could discover a linguistic principle as significant as Grimm's law. Although students appreciate the generalizations, they are particularly intrigued by the specific examples. The margin of knowledge between the student and their teachers is very often great. Largely through the examples do they learn to appreciate the generalizations.

Examples need as much thought as the rest of the lecture. Suppose an instructor launches into an example without having given it much previous thought. He may say, "Suppose you went into a store to buy a dress. Now let's see—how much does a dress cost—has any one bought a dress recently?—Oh, you're all men—well, let's suppose you bought a suit—." He might have wrung something out of this prosaic illustration if he had said: "Suppose you went over to Campus Haberdashery and told the clerk, 'I want to buy a new Hart, Schaffner, and Marx double-breasted suit— here's the $90.00 check my wife and I are supposed to live on this month.' " Better still, let the instructor choose the details from his own class and his own campus.

Humorous examples have a special appeal for the student. The opportunity to laugh gives him a chance to relax and tackle anew the serious instruction to follow. Yet the use of humor can be overdone. Students may laugh from 10:00 to 10:50, then at 10:55 complain that the lecturer is just an entertainer who doesn't really teach anything. A teacher may get such a reputation for humor that no one will take him seriously. The best type of humor is the turn of phrase or flash of wit that illuminates a subject without distracting from it.

Improving Delivery

The students I interviewed did not seem especially sensitive to matters of bodily action. Posture and gesture did not impress them, though they noted the difference between an animated, dynamic lecturer, and a lethargic one. They were, however, aware of the lecturer's voice, especially when it was not loud enough. Inexperienced teachers holding forth in large lecture rooms sometimes have difficulty in making themselves heard. The student wearies of the constant strain of hearing, and soon loses interest altogether. One teacher answered complaints by this odd statement: "I am glad that you have to exert yourselves in order to hear me. That extra exertion will make you give special attention to what I am saying." A lecturer with the interest of his students at heart will make sure that every one hears him easily. Some lectures could be improved several times fifty percent simply by hav-

ing the teacher talk louder. A few teachers talk too loud, and tend to talk louder as the minute hand goes around the dial. Since pitch of voice often goes up with increase in loudness, these lecturers hit a feverish tempo by the time the class is over.

To improve audibility is not a simple problem. The teacher may need clinical advice about his voice. The institution may need to study the acoustic qualities of its physical plant. If colleges and universities are to have permanently large enrollments, with resulting large classes, they must give acoustic treatment to lecture rooms; in some instances they will need to install sound amplifying systems.

Clear enunciation, the distinctness with which words are uttered, is another prime requisite of good delivery. "Be sure to tell the teachers to watch their *pronounciation* and *enounciation,*" said one student. My interviewees did not appear to be distressed by regional dialect or foreign accent except when comprehension was difficult. What especially worried them was carelessness, slovenliness, and indistinctness. They praised highly the speech of some lecturers, but registered no strong complaint so long as teachers met respectable standards of agreeability and distinctness. Anything below the minimum standard reduces effectiveness at an alarming rate—may, in fact, bring it almost to zero.

Forms of Presentation

Lectures may be delivered impromptu, from notes or outlines, from manuscript, from memory, or from various combinations of the above. Impromptu and memorized presentations will not be considered. The former are too hazardous; as the lawyers say, those who go into court empty-headed will come out empty-handed. The latter are rare; few teachers go so far as to write out lectures and commit them to memory.

My interviewees had little objection to the use of notes or outlines. They realized that instructors have to present a great deal of factual material, complicated organizations and classifications, and intricate tables and formulas, and that accuracy is of first importance. They agreed, however, that an instructor can be unduly chained to his desk. They liked to have the teacher sufficiently free from his notes so that he could answer questions without keeping his finger on his place.

Of the various methods of presentation, the students I questioned had least sympathy with the practice of reading from manuscript. Although they had heard lecturers on many campuses, they did not recall a single instance of a teacher who read lectures effectively. Yet teachers do not have to ask their students for proof that the reading of lectures is usually ineffective. Every one has attended conventions or convocations where what might have been a promising address was ruined when the speaker pulled a manuscript out of his pocket. Monotonous vocal pattern, fixed facial expression, and general lack of energy and animation nearly always seem to accompany the reading of a paper.

To condemn a teacher because he reads his lectures may be only a superficial sort of criticism. Perhaps the ideas were so dull that Gabriel himself could not vigorously present them. Perhaps the teacher was merely repeating material that the student has already seen in the text-book.

Theoretically there is little reason why good lectures cannot be read interestingly. A few ministers, like Fosdick, read from manuscript with uncommon skill. A few political speakers, like Churchill, have the ability to bring typed words to life. But the art of reading well is more difficult than the art of speaking well. The instructor who begins his teaching career by reading his lectures is less likely to develop a successful speaking style than one who begins by using notes or outlines, gradually training his memory and developing his fluency so that he can communicate more and more directly to his students.

Two prerequisites to good reading often escape the teacher. One is that the vocabulary, the sentence structure, and the organization of the written lecture should be adapted to oral presentation. Sentences should be simple, language vivid and striking, and organization clear. The general tone should be more informal than that of the scholarly essay prepared for printing. A good way to prepare such a lecture is to follow the practice of the late President Roosevelt and dictate it to a secretary. Such a procedure will tend to assure that the language will be the language of speaking rather than the language of writing.

The second prerequisite is that the reader must so present his ideas as to show that he is actually recreating the thought as he goes along. An incident from Roosevelt's long speaking career illustrates this principle. On October 29, 1940, he explained to the country over the radio how the Selective Service Act was to be put into operation. The occasion was the drawing of blue capsules from the large glass bowl in the House of Representatives to determine the order in which the young men of the nation would be called to service. In the course of his address, Roosevelt read these words:

> And of the more than 16,000,000 names which will come out of the bowl more than half of them will soon know that the government does not require their service.

Then he paused; something in the sentence did not make sense to him; and in a moment he continued:

> I made a mistake there—I'm afraid it's the fault of the copy—of the more than 1,600,000 instead of 16,000,000—

There had been some talk of "16,000,000" earlier in the speech; but just now the correct figure was "1,600,000"; to make sure no one would misunderstand him, he repeated the idea:

> —more than half of the 1,600,000 will soon know that their government does not require their active service.

One who read mechanically would not have noticed that a mistake has been made. By contrast, one of the announcers on the same program was assigned the responsibility of reading the numbers over the microphone as fast as they were drawn from the bowl. The nineteenth number drawn—105—was his own draft number, but he did not realize he had read his own draft number until afterwards when a colleague commented upon it.

The good reader is keenly aware of the significance and meaning of what he is reading. The poor reader follows his manuscript word for word, giving the im-

pression that if he were interrupted and asked, "Professor, what does that last sentence mean?" he would have to go back and re-read it—this time with awareness of content—before he could answer the question.

Invite Student Comments

Although the real test of a lecturer's effectiveness is measured by the lasting quality of his instruction—the impressions, recollections, and habits of thinking that persist years after graduation—the opinions of students at the time they take a course are valuable. Some teachers hand out questionnaires at the time of the final examination, inviting frank comments. One way is to list the titles of typical lectures, and to ask the students whether each one was poor, average, or good; or whether it should be expanded, deleted, or left unchanged.

One summer I sat across a discussion table from an army instructor in a military university who ended every course by asking students to answer questionnaires. The first set of questionnaires, he said, contained many brutal criticisms. "This lecture stinks," said one student-officer; "this one stinks too; in fact, they all stink." "Where did they find you?" wrote a second. Fifty such comments led the instructor to feel that his lectures were not satisfactory. He found a few helpful clues in the avalanche of ridicule, conferred with some of his more successful colleagues, and did a little private soul-searching. He showed me the returns from his last set of questionnaires; many of them were quite commendatory. He planned to study that set with intellectual detachment, trying to discover still other avenues of improvement.

A good lecture is a thrilling experience for both the instructor and the student. It is exciting to sit in the back of an auditorium and see the lecturer, by the force of his personality, the vigor and originality of his ideas, and the animation of his presentation, reach out and arouse the intellectual curiosity of two or three hundred students. It is gratifying to hear students in the hallways comment glowingly about a lecture they have just heard. Fifty percent improvement is not too ambitious a goal for any of us.

IMPROVEMENT OF INSTRUCTION THROUGH THE RECOGNITION OF READING SKILLS

A. Sterl Artley

In writing for a group of university instructors, there is little need to emphasize the fact that the level of general reading ability found in many of our students leaves much to be desired. If objective evidence is required, however, at least one study is available that shows that approximately twenty percent of college students studied read less effectively than eighth graders. With this limitation in reading ability, it is obvious that these students might be expected to have extreme difficulty in any course demanding reading, particularly wide reading, such as literature, history, sociology, and psychology. Another study shows that there is a wide range of proficiency in reading skills among college students. In this study, some students were able to read as many as 45 pages an hour more than other students. Again, it is apparent that in courses demanding wide reading, the student with a slow rate of reading will be at a definite disadvantage over the student who can read more rapidly. Hence, from our contacts with students, and findings from typical research studies, it is apparent that there is a great need for improving reading ability on the college level.

Several approaches to the problem of improving reading on the college level have been described in the literature. Many of these programs employ remedial reading as the approach. In this type of program, those students who are reading on a particularly low level are segregated in special sections of English for concentrated work in the improvement of reading skills. Programs such as these emphasize the basic reading skills—word recognition, sentence understanding, paragraph comprehension, and the like.

However, on the college level particularly, reading involves much more than the efficient use of basic reading skills. In fact, if the acquisition of the basic reading skills were all that is involved in learning to read, the sixth or seventh grades would likely see the job well toward completion. Reading on the highest levels involves much more than recognizing words, understanding the meaning of words, and comprehending the literal sense meaning of a paragraph. Reading is an active thinking process that involves interpretation, critical reaction to ideas and the integration of ideas with past experience. In an article in the *Saturday Review of Literature,* Center and Persons of the New York University Reading Clinic write as follows: "Reading is thinking. Readers read as well as they think, and no better; therefore training in reading is primarily training in thinking. The man who reads well is the man who thinks well; who has a background for opinion and a touchstone for judgment." Application of this point of view then demands that the efficient reader acquire higher thinking skills. Such skills involve the sensing of relationship among ideas, weighing the validity of ideas, checking statements against assumptions, sensing purposes for reading, tracing the author's thought pattern, and applying the ideas gained to the solution of personal problems. These higher reading and thinking skills demand a maturity on the part of students much beyond that which they possess in junior and senior high school. Hence we believe that the solution to the

reading problem in college is not to be found in a remedial reading program which is designed to meet the needs of only that portion of students who are deficient in reading skills, however well that program might be conducted. Rather, it is to be solved in a developmental reading program, designed to develop those higher reading skills through content which the students are actually studying.

It is beyond the scope of this paper to discuss the organization of such a developmental program. Suffice it to say that it should be part of the basic English program and should be definitely directed toward the acquisition of specific thinking skills, understandings, and abilities.

However, this statement should not be taken to mean that teachers of basic courses in English are to assume all of the responsibility for developing the higher reading skills. Rather, each content area teacher has the specific responsibility of seeing that his work is a challenge to good thinking; that he requires of his students the use and application of mature reading skills.

One of the things that every instructor can do in this direction is to give careful attention to the kinds of assignments he makes. It is a truism that students will do the kind of reading that is demanded of them. If we demand the regurgitation of factual material covered in a textbook, that is what our students will do for us. If, on the other hand, we demand the assimilation of ideas, their critical evaluation and interpretation; if we demand the use of facts and ideas in the solution of actual and hypothetical problems posed for a solution, that is what we will get. In other words, the assignment is the key to the kind of reading and thinking students will do. Briefly, we shall make several suggestions as to how the assignment may be made a challenge to good thinking.

In the first place, make the purpose of the assignment clear. Show the students exactly why the assignment is to be completed; how it relates to our instructional goals; how it grows out of work covered in the last unit; how it will help their further understandings. In the second place, make the assignment definite. Let the students know exactly what you expect them to do; which books you expect to be studied; which chapters are to be studied and for what purpose; what written work is to be done; what it is to cover and when it is due.

In the third place, set up proper situations or exercises that demand the use of the kinds of thinking skills that we want developed. At times, we will want to introduce problems that call for the application of a generalization. Still, at other times, problems that call for the discovery of integrating ideas or principles might be posed. Excellent examples of activities and exercises that demand creative reading may be found in *The Measurement of Understanding,* Forty-Fifth Yearbook, Part II, of the National Society for the Study of Education. McCullough, Strang and Traxler's *Problems in the Improvement of Reading,* Appendix D, also has excellent suggestions.

If the attack on the reading problem is to be successful on the college level, it should not be allocated to any one person, department or area. Every college instructor has the responsibility for helping his students develop those skills and abilities that will make them more efficient readers of his materials of instruction.

TEACHING BY DISCUSSION

Bower Aly

Discussion is a method of inquiry well suited to the classroom. Its primary function is learning, and its great advantage over some other classroom procedures is that the student has the opportunity not only to learn the subject matter under discussion, but also to learn about the method of discussion, about himself, and about the group.

Discussion as a Means of Learning Subject Matter

Learning the Subject Matter. Far from being new, discussion has been used in varying forms since schools began—in dialectic, symposia, and tutorial or preceptorial groups. Although discussion is only one avenue to the mastery of subject matter, it provides a means of realizing objectives that may be difficult, if not impossible, to attain through reading, lectures, laboratory, or other methods. Teachers have found discussion useful in the discovery of student misconceptions, in revealing their problems of learning, and in determining their attitudes toward a given subject. Students have discovered that they can sometimes learn as much from each other in student discussion groups as they can from a professor's lecture. Students are often less afraid to expose their lack of knowledge to each other than to a teacher. They are perhaps better able to measure the gap between their own understanding of a subject and the learning of their teacher or text. Good discussion should test and clarify information, expose ignorance, establish the relative importance of ideas, determine the values within a given subject, stimulate interest in specific concepts, and even (at its best) develop intelligence concerning judgments in the subject field. Albeit discussion is no substitute for other methods of instruction, it has a legitimate function too often neglected in the mastery of subject matter. Its use in such diverse areas as philosophy, political science, art, botany, and mathematics has demonstrated its worth in resolving the solid, practical, everyday problems of learning.

Discussion as Test and Objective. Doubtless most teachers would agree that a legitimate goal in the teaching of every subject is the student's mastery of the material to the point where he can discuss the subject competently at an appropriate level. Indeed, many persons would be inclined to doubt the competence of that student, who, as the saying goes, "knows it but can't tell it." Certainly one of the characteristics of the liberally educated person in every generation has been an ability to discuss questions of worth and value. In a course in botany, for example, the ability adequately to employ the verbal symbols of botany is a worthy objective for the course. It may also be a valid test for the mastery of the subject matter.

Special Values of Discussion

In addition to its use as a tool in mastering subject matter, discussion has special values that are an essential part of a liberal education even though they may not be the primary objective of every course. These special values can be encouraged in all areas, however, and good classroom discussion should take them into account.

Learning About One's Self. Participation in discussion can help the individual. Especially if a good critic is at hand, the benefits may include for the timid, overcoming fears; for the sensitive, willingness to accept criticism; for the prejudiced, a stimulation to straight thinking; for the scatterbrained, an incentive to listen intelligently and to organize thought.

Learning About the Group. The student in a class discussion has an opportunity, in some ways unparalleled, to learn more about other people. How do they respond to questioning? How do they react to criticism? What do they profess to believe? How do they get from accepted premise to received conclusion? What do they assume to be true? What happens to a group when problems of consequence are discussed? The answers to these questions, invaluable to the active citizen, as to the student, cannot be had entirely from textbooks, from lectures, or from reflection. They can be learned only by observation, and probably they can be learned best in group discussion.

The value of the different functions of discussion varies with different classes. Self-improvement in the art of discussion may be more important to younger students than to mature men and women. Some students may be interested only in learning the subject matter of the course. Still others may be interested in observing how the class functions as a unit. But teachers should not overlook the by-products of discussion: attitudes formed, beliefs revised, tensions released, opinions changed, and minds thrown open to the searching doubts that may be the beginning of an education.

Objections are often raised to the theory and practice of discussion. Some of the objections have merit and some do not. The objections having merit mostly arise from the overclaim made for discussion by enthusiasts. Discussion is not a panacea for all the ills that students are heir to, nor will it enable an inferior teacher to become a Socrates overnight. Indeed, close observation would suggest that teaching by discussion requires more and not less effort and ability than lecturing.

Self-Improvement in Discussion. The ability to discuss is not innate: it can be acquired effectively only through participation. One of the functions of discussion, therefore, is the continued maintenance, as well as the transmission from generation to generation, of the knowledge and skills required in the conduct of discussion. The techniques, apparently simple when employed by a qualified person, actually demand experience and judgment. The unskilled person, for example, may be bewildered by such problems as these: How do you manage cross-talk? What do you do when members of the group engage in personalities? How do you move a discussion off dead-center? When do you stop?

Applications of Discussion to the Classroom

In general, discussion that would be approved outside the classroom would be approved within it; but some special problems in teaching and learning in the classroom make advisable the specific consideration of classroom discussion under three heads: questions for discussion, the teacher and discussion, the students and discussion.

The Discussion Question. Not all questions are equally available to discussion procedures. Where information is to be conveyed systematically, the lecture will doubtless always remain superior to the discussion. For the imparting of knowledge agreed upon and not to be questioned, discussion is unnecessarily time-consuming and wasteful. Much of the disrepute into which discussion has fallen in some quarters may be attributed to its use in questions to which it is not adapted. The following observations are pertinent:

(a) The question should be either timely or timeless. Some questions are hardy perennials. They never cease to challenge a class. Others must be taken while interest is high or let alone.

(b) The question should preferably be one involving controversy or difference of opinion. If complete agreement exists, one of the reasons for discussion is lacking, and if the answer to the question can be obtained by inspection, by reference, or by any other method, discussion is likely to be unprofitable.

(c) Especially for classroom discussion, the question should be manageable. The subject matter should be susceptible to division into parts. The subject matter should be important enough to justify consideration, yet not so difficult as to be beyond the competence of the group.

(d) For beginners in the subject field or in the practice of discussion, special care should be taken to avoid topics so abstruse as to be discouraging.

(e) The question for discussion should be framed with care. It should be truly interrogatory, and especially for beginners in a given subject or in the art of discussion, it should be stated simply, fairly and clearly. The question should be announced early enough to permit adequate preparation, and the assignment should be made with attention not only to the subject matter, but also to the technique to be used.

Types of Questions. Discussion questions concern fact, value, or policy. Questions of fact are not usually chosen for discussion; they must submit to objective evidence. Is the Dow-Jones average higher today than a year ago? Has Indianapolis gained in population during the past decade? These questions can be talked about, but they can hardly be discussed profitably since discussion will not produce the facts that might be had by consultation of available sources. Sometimes, however, a question of fact involves interpretation or prediction: What is the meaning of the election returns? What are the aims of the Russian government? Such questions as these are suited for discussion, because the answers, however important, are problematical.

Questions of value are suitable for discussion: Are our public schools worth what they cost? Is *Paradise Lost* a greater poem than the *Faerie Queen?* These questions bring out differences in personal preference or in standards of judgment.

Many people believe that the best questions for discussion are those related to some proposed course of action. Often the word *should* appears: Should students be deferred under selective service? Should the United States maintain naval bases in the Southwest Pacific? Questions of policy often have the merit of comprehending questions of fact and value and of putting them to the test of proposed action.

Burning Issue. Sometimes a good discussion is lost because a question is regarded as "too hot to handle." A question that is too hot to handle may often be cooled by good, straight talk. As a rule, provocative questions lead to good discussion, and almost any such question is suitable provided always a qualified teacher is in charge. Perhaps as safe a rule as any is to ask, Is the question in the newspapers? If a question can be discussed in the newspapers, it can ordinarily be discussed in the classroom. A well-conducted discussion is more likely to produce adjustment than conflict.

The Teacher As Discussion Leader. The effectiveness of discussion in the classroom depends chiefly on the teacher. Apparently some teachers hold a grave misconception of discussion and of how to go about it. Modern classroom discussion is not a dialogue between the teacher and two or three bright pupils on the front row. It is not a question hour in which the students ask a few questions and the teacher gives forth elaborate answers. It is not a period in which a teacher condescends to the group. To be successful with discussion, the teacher must assume the role of learner with his students. He must cast off the garments of infallibility and appear as one of a group seeking knowledge of a subject which commands interest and even admiration. If the teacher enters into a discussion hour with the right attitude, he may be successful in spite of handicaps in voice, manner, and personality. The following list of qualifications is admittedly ideal and doubtless should not be expected of every teacher.

(a) Intellectual equipment. The teacher who leads discussion must understand not only the subject matter of his course but also the method of discussion and the ways of people. His mastery of techniques, including those of speech, facilitates the discussion process and gives him the confidence necessary to succeed in teaching. Knowing the subject matter fully enables him to test the accuracy of information presented and to explore points of view that otherwise would not be open to his class. Understanding the ways of his students assists him to create a group and to adjust himself to its spirit.

The intellectual equipment of the teacher who leads discussion must be functional. He must have mastered his knowledge beyond textbook theory. His understanding of the question must be lively rather than merely academic. The tendency to departmentalize knowledge, however useful administratively, is harmful to discussion in the classroom. A wise teacher will not say, "But that is an economic theory and our question is sociological; therefore we shall pass on——." The effective teacher employing the techniques of discussion must know his subject at its periphery as well as at its center.

The understanding of students, so necessary to the teacher who leads discussion, cannot be stereotyped into the frame of "how students are supposed to act." Students are people, and they do not always follow patterns of behavior. The teacher who employs discussion successfully must sustain sympathy for young men and women.

(b) Personality traits. Although few teachers will have all the personality traits generally thought desirable for classroom discussion, yet every teacher will endea-

vor to develop the traits that should be encouraged:

As a discussion leader, the teacher is alert. He makes up his mind and, when necessary, acts quickly. Yet he exercises patience and self-restraint at all times. He evinces not mere tolerance, but genuine respect for the personality and opinions of his students. His sense of humor is available to save a situation endangered by bad feeling. The warmth of his personality tends to make him liked. His comments and contributions are phrased tactfully; his suggestions for the conduct of individuals are given without asperity. He commands respect because he is objective in his judgments and impartial in his leadership. His personal integrity is above question. He is neither aggressive nor timid. The total effect of his personality is to inspire confidence in himself, to create a spirit of cooperation in the class, and to stimulate open-minded inquiry concerning the question under discussion.

(c) Experience. Teaching by discussion can be learned through observation and practice. No other experience is a substitute for discussion itself. Systematic study of discussion as a process is now possible through the recent literature on the subject. Observation of and reflection on some of the excellent discussion programs broadcast over the networks will assist the teacher wishing to learn the method of discussion, but they will not substitute for actual participation as a member and as a leader of a discussion group.

Planning

Current practice in the making of plans for discussion is neither uniform nor consistent. An experienced teacher will be able to carry a well-developed pattern in mind without putting it on paper. The best practice for the beginning teacher is a plan well worked out and written down. The plan may be kept entirely for the teacher's use, or it may be presented to the class as a means of opening the discussion; but it should never be used as a blueprint to which the discussion must conform.

A useful plan for discussion may be developed from the following four-step arrangement:

(1) What is **wrong**?
(2) What **should** be done?
(3) What **can** we do?
(4) What should **we** do?

A tentative and very simple plan based on the foregoing steps and made specific for the question at hand may help the teacher to keep the discussion in gear and moving forward. Improperly used, any plan may create an artificial situation.

The foregoing plan is perhaps best suited for current social and political problems. Other fields of learning may well develop other approaches; for example, in a course in philosophy, the plan might well be initiated by the following series of questions:

(1) Is there a real conflict in our beliefs?
(2) If so, what is the conflict?
(3) Can the conflict be resolved?

(4) If not, what are the basic differences in points of view?

The responsibility of the teacher extends to the details: the seating, the equipment to be used, and the time limits established. In large classes the teacher may delegate responsibility to selected students. In small classes he may take personal interest in seeing that details are well managed.

Before the discussion opens, the teacher should make certain that all arrangements have been made. He should begin the class meeting without hesitation or uncertainty. His duties thereafter will depend upon the type of discussion and the kind of class. In a panel or symposium, he will present the members of the group to the class audience. His introduction should set an example of tact and brevity. In a class discussion, he should begin by a short analysis or a provocative statement concerning the question and conclude his introduction with a question or comment likely to evoke an immediate response from one or more members of the group. From time to time, the teacher should make running summaries of the discussion. The function of the running summaries is to make transitions from point to point, to integrate contributions by the students, to remind the class of the question originally undertaken, or to assess the progress made toward a conclusion. Although the goal of discussion is not unanimity, groups usually like to have running summaries indicate consensus or variations therefrom. The responsibilities of a teacher during the progress of a discussion, like those of a fire chief at a conflagration, are many and various, more easily observed than described. The teacher-leader's task is to do whatever is needful to keep the discussion moving intelligently in the direction of problem solution or class understanding of the difficulty. Observation of a great many discussions, both successful and unsuccessful, indicates that successful discussions occur when the students almost completely lose themselves in the question without looking too much backward or forward, while at the same time the teacher constantly remembers what has happened and keeps in mind alternative possibilities of what may yet happen to the discussion. The teacher's responsibility differs from that of the students in at least this respect: he must keep always in contemplation the whole movement of the discussion.

Besides remembering what has happened and constantly revising mental predictions of alternatives, the teacher-leader must not neglect the current movement of the discussion. Moment-by-moment, the most obvious of his duties requires constant attention. He must subordinate his own point of view without abdicating his position. Given a choice between contributing with a salient fact or idea himself, and drawing it from a student in the group, he will try always to get it from the student. The teacher may talk a great deal more than he or the group realizes, provided the talk is stimulating and provocative. Only as a last resort, if it becomes apparent that no student will do so, should the teacher contribute to the body of the discussion. Yet he will not withhold necessary or useful information out of undue respect to rule. In presenting a necessary fact he should associate it if possible with a previous contribution: e.g., "But wouldn't Henry's conclusion be modified by the data in the White Report?"

In the moment-by-moment direction the teacher is neither dictator nor servant.

He has the status of a friend and guide not unlike the woodsmen who conduct hunters through the forest. On occasion he draws out the timid or controls the aggressive student. He maintains a balance in contributions from students, repeats varying points of view, and endeavors to give everyone a hearing.

Opinions differ about the pacing of discussion. Private discussions may have some liberty; but public discussions, especially those broadcast, must maintain a lively movement or lose their audience. In some discussion groups, the period of silence is understood as a period of reflection: it may occur after the statement of a paradox or the discovery of some elephantine inconsistency. No one wishes to talk until he has re-oriented himself. To a person learning how to lead a discussion such silence may be most distressing, but a moment's waiting will usually save the situation.

The teacher serving as leader must sometimes intervene to prevent cross talk, i.e., a more or less private interchange between two members who threaten to monopolize the discussion. "That's an interesting difference of opinion," the teacher may say, "but Harvey seems to have another point of view. How about it, Harvey?" Sometimes the teacher must rescue the discussion from a single talkative student who tends to make it a monologue. Breaking in while the talkative student catches a breath, the teacher will say, for example, "You have a point there, but now we would like to hear what Helen thinks about it."

A responsible teacher is on guard constantly to check the evidence employed as a basis for judgments formed during the discussion. If questionable evidence is introduced, the teacher should anticipate its being challenged by the group. If the group does not challenge it, the teacher may say, for example, "Robert, do those figures on total tonnage check with the annual report?"

A teacher must decide when to quit. A discussion should not be allowed to die a lingering death. It is far better to have students leave saying, "I'm sorry it's over so soon," than to have them leave saying, "I thought it would never end." While the discussion is still vigorous, while talk still runs high, the teacher (or student leader) should offer a summary and close the discussion.

The conclusion may be a brief review of the discussion or a critical analysis of differences of opinion, or it may be a restatement of the basic points of view. Some discussions conclude with a vote, but a vote is not necessary.

Special Problems of Discussion in Classroom

Size of the Group. One of the questions most often asked about classroom discussion is, How many students are needed to conduct a good discussion? A kindred question is, Can discussions be held properly in large classes?

The optimum number of students for a classroom group discussion lies between twelve and twenty. A larger number of students can be accommodated by a skillful teacher. Adaptations of discussion have been devised for larger groups. Among the most suitable for classroom purposes are the symposium and the panel. The symposium provides for a division of a given question into parts. Each student member of the symposium takes eight or ten minutes to deal with his part

of the topic. Preferably, some time is left for a synthesis and possibly for questions at the conclusion of the hour. A symposium could be programmed, for example, for a group of three hundred students on such a topic as "Forms of City Government." The teacher might select one student to speak for eight or ten minutes on "The City-Manager Government in My Town," another to present out of his own experiences a variation of one of the other forms of municipal government. The remainder of the hour is devoted to discussion among the members of the symposium before the class, to a critique by the teacher, or to questions from the class.

A panel discussion can be conducted with a less formal division of the units of subject matter and with more talk among the members of the panel than in the symposium. Students named to the panel should be chosen with care and should be cautioned to speak loudly enough so that everyone can hear. Four, five, or six members of a panel, seated in the front of the class and preferably on a platform, can provide an instructive hour for a group of several hundred students.

Recently some groups have tried what is known as the "invisible panel." Five or six chosen members of the class are distributed throughout the classroom. They carry on their discourse simply by rising at the appropriate time and speaking to the question. The invisible panel requires a skillful moderator as well as thoughtful participants.

Subjects Available to Discussion. Sometimes the question is raised, Can discussion be employed in all subjects, or is it peculiarly suited to social studies? The availability of discussion as a teaching method is not dependent on the subject matter, but rather on the type of material being taught. Wherever questions involving probability, value, and judgment exist, discussion can be undertaken properly. Since college courses are generally assumed to involve questions of value, as of fact, the safe assumption is that any course worthy of being taught in a college or university involves some questions suited to discussion. The method of discussion has been used profitably in courses in the natural sciences as well as in the social studies and in public affairs.

Evaluating Discussion

No really good instruments exist for measuring the effectiveness of a specific classroom discussion. The evaluation is one of judgment based on the question, To what extent did this discussion meet the accepted standards of excellence? The final dependence upon judgment in the evaluation of discussion does not preclude use of facts or objective evidence available. Nor should it be discouraging that the final evaluation is a judgment rather than a completely objective measurement. No substitute exists for judgment in human affairs.

Doubtless the teacher is best qualified to evaluate the accomplishment of a given class in the mastery of subject matter. The learning acquired through discussion should be as readily available for testing by conventional methods as the learning acquired by any other procedure. In forming a judgment concerning the mastery of subject matter, the teacher might well ask the following questions:

(a) Were the misunderstandings of the student exposed? If so, were they remedied?
(b) Did students gain experience in reflective thinking in the subject matter?
(c) Were any changes demonstrated in the attitude of the students toward the subject matter of the course?
(d) How well were the students motivated to learn for themselves the material most needed at the point of learning?
(e) How much have the students learned about the **way to learn** the material?

SOME TECHNIQUES FOR TEACHING VALUES

A. Cornelius Benjamin

No adequate discussion of the techniques of general education is possible without a consideration of the goals of such education. But, since the disagreement on this latter question is both obvious and widespread, I shall state dogmatically the point of view which I shall adopt in the following discussion. Whatever else we may be trying to do in general education, we are attempting to provide the student with something that can be called an adequate attitude toward life—a way of looking at the world which offers at least a partial solution to the problem of existence and which provides him with a value perspective enabling him to meet "philosophically" the inevitable situations when he will be confronted with despair, disappointment, disillusionment, and finally death itself. When Matthew Arnold said of Sophocles that he "saw life steadily and saw it whole," we may presume that this was what he had in mind. The man with the good philosophy of life both sees the many aspects of the world and life in their interrelationships and is himself an integrated personality in the sense that he has a clearly defined pattern of values and is thus able, when conflicts between basic desires present themselves, to react intelligently and to make choices which will prove in the long run to have been wise ones.

It would be absurd, of course, to claim that we can provide the student in the few years when we have him under our tutelage with a "finished" philosophy of life. This is the product not of academic training but of years of living and learning. Seldom does one achieve an outlook of this kind even in his later life. In fact, there is much reason to doubt that a finished philosophy would be the kind we want. Someone has well said that a philosophy which is done is a philosophy which is done for. For life is too flexible to fit well into an unchanging form. But, even if such a fixed pattern were desirable, there is little likelihood that it could be adequately presented in a few short lessons.

There is still another reason why we should not put too much confidence in techniques which are designed to teach the student a philosophy of life. This has been so well expressed by Jacques Barzun (*Teacher in America* p. 10) that I shall quote him directly:

> The advantage of "teaching" is that in using it you must recognize—if you are in your sober senses—that practical limits exist. You know by instinct that it is impossible to teach democracy, or citizenship, or a happy married life. I do not say that these virtues and benefits are not somehow connected with good teaching. They are, but they occur as by-products. They come, not from a course, but from a teacher; not from a curriculum, but from a human soul.

He adds (pp. 32-33):

> The only way to teach somebody is obviously to teach him something. Shall it be an attitude? I answer No because the only way to build up attitudes—once simply known as good habits—is by repetitious moralizing,

> and repetition. . .is undramatic. Even Aesop had to write fables to his maxims. Besides, the only attitudes worth teaching are flexible ones, adaptable to different circumstances. A tolerant person may not be perfectly tolerant but he will surely tolerate more things than those his parents or teachers happened to mention. This means that the only way to instill any human virtue is to have parents and teachers and friends who are themselves tolerant and just, and who in all reasonable opportunities evince that character.

If we grant, then, that one of the tasks of general education is to help the student achieve a proper outlook on life and if we grant further that—owing to the short span of college life and to the nature of what we are trying to teach—we cannot complete the job, we are left with the problem of what we can do with some hope of success. Can we do anything to induce the student to accept an adequate philosophy of life? Can we persuade him, perhaps, that certain values are more lasting and satisfying than others? Can we get him to commit himself to a set of goals which may be taken, at least tentatively, as a design for living?

During more than twenty-five years of teaching philosophy I have devised and experimented with a number of techniques in the hope of meeting this problem. Before presenting them I should like to state several conclusions to which I have come concerning their use. They are not all adapted to all students; each special technique is determined by the needs and personality of the individual student and by the stage he has reached in the formulation of his own philosophy of life. Not all of them could be called "good" techniques; some of them are so violent as to be somewhat risky, and others look too much like propagandizing to receive unqualified approval. Some of them are suited to general classroom use; others are better adapted to the more intimate relations prevailing during the conference hour. I proceed to discuss these techniques, and I shall give them names which are intended to be descriptive in character.

1. **Confessional technique.**—This is rather a diagnostic than a teaching method. It is designed to tell the instructor how far the student has progressed in the formulation of a philosophy of life and whether such a philosophy—in case the student seems to be definitely committed to it—is one that is likely to prove adequate or should be replaced by an alternative which holds more promise of fulfilling the needs of life. There are many ways of doing this; two of them may be mentioned. One is the simple device of asking the student early in the course to write an essay in which he states his pattern of life in so far as he has formulated it. Most such essays are quite superficial, exhibit inconsistencies and are extremely vague in terminology. But, in spite of their inadequacies, they provide valuable information about the student, and often they are well thought out and indicate that he understands and feels strongly about the position he is presenting. The other technique is that proposed in the American Council on Education's volume, *Cooperation in General Education.* This is a method in which the student is presented with twenty philosophies of life, expressed in brief statements purporting to indicate

their most significant features, and is asked to state a preference when each one of them is compared with each other. Such a device permits the drawing of a "profile" for each student, indicating those philosophies which he tends to favor and those which he tends to reject. It also reveals the degree to which he has thought out his point of view, since if he states that he prefers A to B and B to C and then, later on, indicates that he prefers C to A he has not clarified his philosophy in a manner which seems desirable. Neither of these techniques is infallible in giving information about the student's point of view, because he may profess a philosophy which he doesn't really live at all and the philosophy which he claims as his own may not really be such but merely that which is accepted by the social group of which he is a member or that which he thinks would receive the approval of the instructor in the course.

2. **Boomerang technique.**—Here the aim is to show the student how the particular philosophy which he has chosen reacts on him in an undesirable way. One of my colleagues employs this technique in a somewhat novel and effective way. When a student who openly admits a strong racial prejudice hands in a test or a term paper, the instructor may return it with the following comment at the end: "This is really a very good paper, but since I do not like the color of your eyes, I have recorded a grade of 'F'." The student usually sees the point. In general, the technique is designed to show the absurdity of extreme positions—that the skeptic who is consistent must doubt even his own skepticism; that the man who believes in **absolute** freedom must allow himself, if he wishes, to be sold into slavery and thus destroy his own freedom; that the advocate of tolerance, in allowing those who are intolerant to gain the upper hand, runs the risk of creating a social situation in which no tolerance is possible; and so on. The technique may even be employed in the case of the student who believes that it is unimportant whether or not he has any philosophy of life, for the judgment that philosophy is unimportant is itself philosophical.

3. **Atom-bomb technique.**—This is a kill or cure method applicable only in the case of the student who claims to have adopted a philosophy of life which, on the surface at least, appears to be quite inadequate and which, in any case, he has obviously accepted on utterly irrational grounds. The principle involved is that no one is in a position to adopt a better philosophy of life so long as he already has a worse one; or, in still more general terms, no one is ready to accept truth if his mind is already filled with errors. The method is employed, therefore, to clean house preparatory to new occupancy. Its name is chosen to emphasize that it is primarily a shock technique and must frequently be employed in a severe and cruel manner. The mildest form involves simply arguing against the position which the student has taken. A somewhat more extreme method requires resort to *ad hominem* arguments and frequent use of sarcasm, ridicule, and irony. A special type of *ad baculum* argument has sometimes been proposed as an effective device in situations of this kind, but I am quite convinced that the end would not justify its use. It involves threatening the student with failure in the course unless he aban-

dons the point of view he has taken. However important it may be to drive out the undesirable philosophy, nothing is to be gained if in the process we create the attitude that any philosophy of life is to be accepted or rejected on the basis of immediate rewards or punishments.

4. **Soothing-syrup technique.**—This is designed to attain the same end as the preceding method by a somewhat less violent process. It involves assuming agreement with the student in the point of view he has taken, but the aim is to lead him gradually to see its inadequacies and to shift to a more satisfactory outlook. The approach has much in common with the methods recently advocated in connection with student advising—the so-called "uh-huh" techniques, in which the counselor refrains from asking the student questions or suggesting answers and merely allows him to say what is on his mind. But it differs from the confessional technique in that the instructor attempts by a gradual process, and within the framework of the philosophy of life which the student has adopted, to introduce imaginative situations of greater and greater complexity which are designed to show the need for some modification in the pattern. A commonplace example is the following: A student who is an "absolutist" in morals, believing, say, that lying is **always** wrong, may have his confidence in his position shaken when he is asked whether a spy is required always to tell the truth, whether a doctor should tell his patient in every case exactly what the prognosis is, whether there is not some justification for "white" lies, and so on. The attitude taken by the instructor is designed to "comfort" the student in the value pattern he has accepted but, at the same time, to convince him that the solution is not so simple as he had supposed. The discovery of borderline cases is always upsetting to one who has adopted a cut-and-dried philosophy of life. The assumption of the soothing-syrup technique is that by some such device as this the student may be led to realize the importance of justifying all his beliefs, both to meet his own growing demands for rationality and to enable him to defend his point of view when he is challenged by others who have a different outlook.

5. **Exposure technique.**—Here the task is merely to inform the student of alternative philosophies through literature, contact with varied art objects, and participation in intellectual, social, moral, and religious situations. Sometimes this can best be done imaginatively, as in the case of literature, and sometimes it is most effectively accomplished by actual experimentation in the living social process (joining student or community groups) and in the dynamics of religious living (church attendance or affiliation with student religious discussion groups). The task here is not to defend or persuade but merely to acquaint the student with the great range of value experiences, some of which have been tried out through the centuries, which are available for selection. Often, as a result of such exposure, the student abandons his original point of view and replaces it by an entirely new one; frequently he merely modifies the earlier one in such a way as to permit the addition of some virtues of the later one; but in any case he learns to appreciate the great value to be derived from the study of an alternative position, since it throws new light on his old outlook and thus contributes to greater understanding. A simple

example, in the area of intellectual values, will suffice to make the method clear. Beginning students, who usually accept a very naive "correspondence" theory of truth, are amazed to learn that mathematicians use the word "truth" in a very different sense, yet the usage seems—when it is properly explained—quite plausible, and they frequently find that their former conception requires modification in view of this discovery.

6. **Honey-words technique.**—At this point the task is simply to supplement the exposure technique with various persuasive devices. The ground for the use of such a method is the fact that some commitment to a philosophy is necessary before true understanding can develop; if one is indifferent to a position, he is disinclined to make the effort necessary to think it through. The technique is not easy to employ because it is distinguished only with great difficulty from preaching, on the one hand, and indoctrination, on the other. In general, it is marked off from the former (at least as some preaching is carried on) by placing greater emphasis on intellectual rather than emotional devices and by functioning in the classroom, where logic, at least ideally, is the prevailing spirit, rather than in the church or the cloister, where ceremony and ritual aim to produce a state of mind conducive to unquestioned acceptance. On the other hand, it is distinguished from indoctrination by the mildness and the fairness with which the persuasive devices are employed. True indoctrination seems to involve three methods which are pedagogically completely unjustifiable. First, it either disregards alternative points of view completely or presents them only in the context of strong counterarguments. Second, it finds no virtue whatsoever in any of these unapproved positions. Third, it makes the desired value pattern the focus of instruction and uses only positive arguments, i.e., it finds no inadequacy whatsoever in the approved position. The two important dangers in the honey-words technique are that, since young students are gullible, they will easily be induced to accept any point of view which is presented with a certain degree of persuasion and that, since love is blind, a too early commitment to a philosophy of life may prevent the development of the objective attitude which is so necessary for true understanding.

7. **Skirmish technique.**—This is the final technique. It is applicable only when the student has begun to adopt a desirable position and needs to have his conception of it sharpened to the point where he sees both its implications and its difficulties. The method involves taking any point of view which is different from that which he has tentatively adopted and arguing against him. The principle is that he gains in understanding by devising arguments and meeting counterarguments. The technique differs from the atom-bomb technique both in the kind of arguments used by the teacher (*ad hominem* arguments, sarcasm, and ridicule are entirely out of place at this point) and in the fact that the earlier method is designed to shake a student from a point of view firmly accepted on irrational grounds, while this one aims to strengthen his confidence in a position which he has up to the present adopted only tentatively and in an exploratory manner.

8. **Other techniques.**—There are other techniques which are perhaps not

important enough to warrant special consideration. One of these is the **watch-me technique,** which is designed to enable the student to learn by imitation. It is more readily applicable to the teaching of skills than to the transmission of value attitudes. Perhaps the best example is that of the philosopher who instills in the student both a love for philosophy and a desire for a philosophy of life simply by standing before him in the classroom and doing a superb job of "philosophizing." In more general terms, any teacher, I should suppose, is inspired by the hope that the devotion which he exhibits in his own pursuit of truth will arouse in the student a similar love for his elusive ideal. Another technique whose name I have not yet found and whose virtue is somewhat questionable except in very unusual circumstances is the one which produces no commitment on the part of the student except the aloofness from all commitment. If we are rational animals (which at times seems very doubtful), the only proper attitude for us to take is one which involves identifying ourselves with no single philosophy, since to the extent to which we are fair-minded we recognize that every design for living has both merits and defects. In view of this fact we ought never to adopt any philosophy, for by doing so we necessarily exclude some alternative point of view which has unquestionable virtues. Hence we are in need of a method which will produce toward all points of view an attitude of objectivity, an openness of mind, and an impartiality of outlook which will permit true rational examination. The only drawback to this attitude of aloofness from all commitment to anything but the principle of rationality itself is that it is hardly a workable philosophy of life. For man lives not merely by understanding but by action, and there is no action which does not involve acceptance of certain nonrational values.

TEN COMMANDMENTS OF DEMOCRACY IN TEACHING

Robert F. Karsch

The preparation of college students for active democratic citizenship cannot be left to a few particular courses in the curriculum. Highly important as are specialized studies in history, government, and the various social sciences, democracy will take on a vital realness in the eyes of young people only as they live it and see it lived in their classrooms, families, and varied social relationships.

The learning process itself is basically democratic, being grounded on the twin assumptions that the individual must make an idea his own before it is worth much to him, and that each person may contribute something original and worthwhile if given the chance. Aware of this, the teacher irrespective of his field of subject matter, will normally seek to make his life a total witness to the democracy he professes. A decalogue of democracy in teaching might run as follows:

1. Serve no other ends than truth and an enlightened justice.
2. Make no graven image of infallibility out of either the textbook or your own views.
3. Never take the human heart in vain, nor be careless of human feelings.
4. Remember the measurement of time, and keep it relative. Some persons think rapidly, others slowly, yet each deserves the chance to contribute according to his own pace.
5. Honor the student as a human being equal to yourself, and be ready to learn from him.
6. Never kill the fresh idea, nor crush the rebellious spirit, but rather find the means of turning these to good account.
7. Neither adulterate nor apologize for what is good, and do not compromise with what is wrong.
8. Be an eloquent listener, cultivating a reputation for good will, sympathy, and tolerance.
9. Do not covet popularity, nor administrative favor, nor the lighter load of a colleague, nor anything that is a by-product or distraction.
10. Enjoy life and your role in it.

SUGGESTIONS FOR BETTER TEACHING

Students and Alumni

A consumer's report on teaching is a useful check for the teacher on fundamentals of teaching as well as upon student attitude toward the instructor's work. While more specific suggestions by questionnaires regarding a specific teacher and class are more immediately useful, still generalized comments and recommendations have considerable value to the teacher by enabling him to avoid undesirable practices. The following suggestions are selected from the reactions of a number of students and alumni of the University of Missouri.

1. Students would appreciate the instructor's giving them, in the first meeting of the class, a general outline of the course and a clear statement to indicate what is expected of them.
2. Students appreciate being treated as mature human beings.
3. Good instructors know their subject thoroughly.
4. Some instructors seem to live their courses, while others seem to regard their teaching as drudgery. A good instructor is enthusiastic about his subject. Students appreciate an instructor's efforts to make his material interesting.
5. Some instructors are too abstract in their teaching; the use of concrete examples and illustrations is a great aid to students.
6. Students like a strict or business-like teacher better than a lax one.
7. A sense of humor is essential in a teacher but it is sometimes over exercised. Most students enjoy jokes but not vulgarity, obscenity, or horseplay.
8. Students appreciate the opportunity to ask questions in class.
9. Students want frank answers to their questions, even when the correct answer is, "I don't know." They recognize bluffing immediately.
10. Quizzes should cover the material considered in class.
11. A good instructor does not plunge into his subject immediately at the beginning of the hour; he uses a story or a few general remarks to attract the collective attention of the class and to focus its attenion on the subject.
12. A considerate instructor avoids slighting or belittling religious, racial, political, or social groups to which members of his class may belong.
13. Students abhor the practice of reading long tracts or entire lectures from books or manuscripts.
14. Variety in presentation of subject matter is stimulating; lecturing from a fixed position in a monotone is soporific.
15. Students appreciate the opportunity of contacts with their instructors, outside the classroom, for the elaboration and clarification of lectures.
16. Teachers have a tendency to overrate their students' ability to think.
17. Students disapprove of instructors who fail to start or stop a class meeting punctually.
18. Elimination of cheating in examinations is imperative.

THE USE OF AUDIO-VISUAL MATERIALS IN COLLEGE CLASSES

Carmel W. Ballew

Audio-visual education refers to the carefully planned and integrated use of many kinds of teaching materials, for any age group and at any time in their learning experience. Audio-visual education includes the use of motion pictures, filmstrips, slides, flat pictures, field trips, demonstrations, models, objects, specimens, posters, dramatizations, records, recordings, maps, charts, graphs, blackboards, bulletin boards, display cases and any other type of materials and experience which supplements and helps to better explain the text or other reading that might be assigned.

These materials, when wisely used, can help to clarify understanding of many concepts and principles, and perhaps make learning a little more meaningful and alive for the students. Audio-visual education is certainly not an end in itself. Audio-visual materials are tools. How these tools are selected and used by the teacher will determine in a large measure how much instruction will be improved. The teacher is and will always be the most essential part in the education of people.

The use of audio-visual education in teaching is not new. Teachers have always used some kind of such material to make their instruction more meaningful to the students. Blackboards, demonstrations, maps, a plant or an animal are all visual materials. Slides, filmstrips, records, field trips, and many others are being used by new teachers as well as those with many years of experience. Much of the great increase in the use of audio-visual materials is due to the conviction that we can teach more and that our students will have more permanent retention if we use such marials where they fit into the objectives of the course.

Each year more and more materials are being made available to teachers from many different sources. Perhaps we should consider how they might help us improve our teaching procedures. From one point of view, teaching and learning have become a race against time. Who can read all he is supposed to read, or do all the things he feels he needs to do? What teacher believes he has the time, the materials and the ability to teach all he would like to teach? We must realize that words alone are no longer enough. We must find out about other ways of getting information to our students. Teachers are beginning to realize that one of their greatest tasks is to discover whether books, motion pictures, recordings, demonstrations, field trips, or a combination of all together will be needed to serve their needs. Then using all of their experience and everything at their command, make their classes more effective by building a curriculum that will use each kind of material to its best advantage.

The question should never be —what audio-visual materials should I use, but rather, what is the most effective means of teaching this idea, principle or concept? If the answer includes some audio-visual material and it can be secured for your use, the problem is then solved. One of the most difficult problems for the

college teacher is to locate the useful audio-visual materials for his course. Many times the Visual Education Department can be of some service and certainly the department here would welcome such opportunities to be of service. Professional journals and trade magazines also have helpful information.

Unfortunately for college teachers most films in the past have been made for high school and grade school use. These are sometimes poorly adapted to college classes. However, the number of films for college students and other adult groups is increasing very rapidly. Don't expect perfection in every instance, but don't overrate the maturity of your class too much.

We certainly cannot overlook the fact that the teachers who use these materials, regardless of the subject matter or the age of the group, must know enough about the equipment which they are called upon to use to know its limitations and its possibilities.

Good teachers know that students are interested when they can see something in the materials that is of obvious importance for them in relation to the general subject. A teacher who can explain to himself and to his students why he is using a field trip or a demonstration or a record as a part of his teaching procedure has taken a step toward a good learning experience. The teacher who can present his assignment in such a way that the material becomes a necessary part of instruction, something to look forward to, and not a chore to be done with as soon as possible, has motivated his class. Pointing out things to look for and watch for, as these materials are used is all important. If we know what we are looking for we are much more likely to find it.

There is no really "best way" of using audio-visual materials. The possibilities are practically without limit. It would seem that the first task for the instructor is the selection of the materials to be used. Here the fundamental question to be asked is, can this teach what we want taught better than we can do it some other way? If the answer is 'yes', it means that the material will probably contribute significantly to the learning desired.

The instructor must know what to expect when presenting material with which he is not familiar. He will need to make plans on how to use it, what points to emphasize and what points may require additional discussion. This information will also enable the instructor to decide how best to use the material (introduction—body of lesson—summary and review—or for more than one purpose).

In preparing students to use the material being presented, it is important that the instructor explain why he is using it at this time. He should make clear what he expects the class to learn and the significant things to look for. Like any other teaching, the concepts to be learned should be related to those already known. If special difficulties are involved they can be pointed out and studied in advance.

In presenting audio-visual materials to a class, it is important to have everything in readiness before class actually begins. This will help to hold interruptions to a minimum. The instructor should see that the materials, regardless of their nature, are presented under the best possible physical conditions. Overheated rooms, poor equipment, lack of ventilation, and other physical discomforts detract

from the learning situation. As in all types of class procedure, the instructor should present the material to the best of his ability.

After the use of audio-visual materials in a class, most instructors find that they can continue the teaching process by various activities such as reports, projects or discussions built around the topic being studied. This is especially helpful when an effort is being made to influence attitudes and build concepts. If students are given a chance to apply the information acquired in a practical way, the chances of retention are increased considerably.

The following is part of a letter from Mr. Authur Dondineau, Superintendent of Schools in Detroit, Mich., to the teachers in the Detroit schools taken from File No. 9506, WDTR Schedule of Broadcasts, 1953-54.

"During the past year such events as the election and inauguration of the President of the United States, the Coronation of the Queen of England, the experiments with atomic energy, and reports of national and local disasters have brought home to us more than ever before the great power of the radio and television to inform and instruct. These "history in the making" events are the heritage of every student and in a democracy we have a great responsibility to acquaint all citizens with happenings that affect our way of life and our building of the peace."

The Visual Education Department of the University of Missouri invites you to use any and all of the materials available at any time. We also ask your help in the form of suggestions and recommendations to guide us in the purchase of new materials. Information on educational films and filmstrips available will be found in the University of Missouri *Film Catalog* published by the Adult Education and Extension Service, in the *Educational Film Guide* and the *Filmstrip Guide* published by the H. W. Wilson Company.

COLLEGE TEACHING AS AN ART

Donald F. Drummond

Numerous attempts have been made by those interested in improving teaching to list or define the qualities or attributes possessed by the successful teacher. These efforts have been spurred, I suppose, by the notion that such a listing of qualities might provide a guide to the beginning teacher, might prove helpful in selecting those who are to teach, and might serve to identify superior teachers.

According to one such list the successful teacher should possess:

1. Knowledge of the psychology of growth, principles of learning.
2. Working knowledge of the materials of the profession.
3. An artistic spirit and be aesthetically sensitive.
4. Socially competent—with adults, children, pupils, and co-workers.
5. Know problems of the society in which he lives, its ideals and philosophy.

Another such list, in which college presidents registered their opinion as to which qualifications for teaching were most important, contained the following items arranged in the order these administrative officers ranked their importance:

1. Inspires students to think for themselves and to express their own ideas sincerely.
2. Has infectious enthusiasm for teaching that inspires students to want to teach.
3. Understands the problems most often met by college students in their work.
4. Organizes materials and prepares carefully for each meeting with the class.
5. Leads students to take responsibility for planning and checking their own progress.
6. Has demonstrated skill in methods of instruction appropriate to his own field.

These are two examples of a large number of such categories. It will be noted immediately that the two listings that I have selected are listings which attempt to name certain qualifications possessed by the college teacher in such a way that they will be useful in evaluating the teacher in the classroom. Other such listings have been made which attempt rather to describe the aims and methods of good college teaching rather more fully, in such a way that it will be useful for the teacher himself to examine what good college teaching consists of, and to modify his practice toward improving these qualities in his teaching. Such fuller treatments as Dean Elmer Ellis' *Characteristics of Good Teaching,* which appears in this publication, and Gilbert Highet's *The Art of Teaching* provide the prospective beginning teacher certain empirical observations which are of much value in pointing out the extent and intent of teaching. They are directed at the practice of teaching and not at listings of attributes. The remarks which follow are intended to refer to such listings of attributes as are noted above. Some of them describe the behavior of the successful teacher, others indicate the methods used by the successful teacher.

It would be naive to suppose that the authors of such lists believe that all successful teaching is done by teachers who possess all or nearly all of these attributes. It seems clear that listings of this sort are intended to emphasize certain worthy

traits or attributes which would be helpful in all teaching, and which one might wish all teachers to possess and to cultivate. Examined in this light, such lists may have positive value for the teacher, may call his attention to aspects of his teaching which he inadvertently neglects, or may reassure him of his competence.

Such ideas as those noted above contain at least three pitfalls for those who construct them and those who read them. The first of these dangers is that all teaching appears to require, from the reading of the lists, the same qualities and skills. A freshman instructor, fresh from the graduate school, teaching his first course in American Government, is held to need the same traits and attributes that the noted scholar teaching five Ph.D. candidates possesses. The teacher of applied music and the teacher of bacteriology are equated, and the same group of attitudes and skills are deemed necessary to both. At some meaningless or nearly meaningless general level, such as equation may exist, but in the practice of teaching itself, such generalization has very little value in determining who is doing a good job.

The second danger is that of considering all students to possess similar responses to similar traits, methods, or techniques. Differences in geography, cultural background, religion, and sex, are only a few of the factors which limit the worth of this notion. Some teachers who succeed in Eastern prep schools and colleges, find it almost impossible to understand the Western student, and I presume the reverse is true. Differences in attitude are as significant from culture to culture as are differences in language, and I suppose no one would advocate that effective teaching is likely to result when the language of the teacher is foreign to the student being taught.

Such lists often contain statements like this one: "Recognizes individual differences and provides for them." To recognize difference and to provide for it adequately in classroom method are two different things, and sometimes the second is beyond the reach of even the most competent instructor. A boy who cannot read English is scarcely in position to learn much in a course in Nineteenth Century Prose. His difference is too great for the instructor to bridge. The provision for the difference may require time which would be better spent in utilizing the similarities of the group toward the mastery of the subject matter of the course. To consider that all students are responsive to the same traits, or to take account of wide differences are extremes of a danger which occurs in every teaching context, a danger which even skilled teachers often find it impossible to overcome. Lists tend to minimize the occurrence of situations of these sorts, by generalizing every teaching situation.

Through these generalizations, lists tend to confuse teaching with learning; to assign to teaching, failures which occur in the situation itself, or in the training or capacity of the learner; to assign to teaching, gains which accrue to the learner independent of the teaching, or in spite of it, or because of bad teaching. Teaching is one of the conditions under which learning is done. Teaching provides a stimulus, a set of circumstances, an ordering of facts or principles, or a series of observations and inferences by which learning occurs. It can scarcely do more. To separate teaching from learning is difficult, a highly subjective procedure at best, but it is necessary, if the evaluation of the contribution of teaching to learning is to proceed

at all. To confuse the two, as most lists of desirable traits and qualities appear to do, increases the danger of examining the gains of students in a too-limited manner, presuming that the measure of growth for one is the measure of growth for all, and that teaching has been responsible for the growth measured.

The third danger is that of allowing too much emphasis to fall on items extrinsic to the teaching itself. Personal idiosyncracy in the teacher, personal counseling of the student, voice, dress, or items of classroom management can be substituted by the unwary for teaching itself.

I make no plea here for the cultivation of the bizarre, the exhibitionistic, or the careless. These deserve to be weeded out where possible from the repertoire of the successful teacher. No teacher has ever succeeded by means of peculiar personal distinctions. He may well have contributed to his success by getting rid of such characteristics. The danger is that the random observer, the compiler and reader of the list, become so sensitive to mechanical classroom performance, and to the elimination of peculiar personal traits, that the emphasis on the learning situation of the class falls subordinate to the mechanics of conduct. A class may be met by a teacher with perfect voice, diction, manner, organization, management, who keeps perfect records, tests efficiently, and meticulously meets students individually for counsel, and yet remains dull, and without any counsel being exchanged in the counselling session. I do not mean to affirm that classroom management is not highly important to the good teacher; but I must insist that the learning situation, complex as it is to evaluate or describe, is of critical importance. Insofar as lists of traits and qualities of successful teaching disperse attention from this critical matter, they seem to me of doubtful merit.

If descriptive lists of traits and qualities be considered to have a somewhat limited value, then it seems that student evaluation check-lists derived from such lists must be subject to the same limitations. Useful as they no doubt are, and I suppose that at present they are almost solely the means of systematic evaluation of classroom performance, they appear to need supplemental evaluation by less naive means, by a more widely informed critical practice than they by their nature can provide. Where are we to turn for such means?

Houston Peterson's book, *Great Teachers Portrayed by Those Who Studied Under Them,* may provide the clue to a direction.

In it, he provides descriptions of twenty-two great teachers. He might, of course, have examined a great many more, or different teachers. These descriptions of great teachers are derived from the recall of distinguished people who sat under them as pupils. I think it probable that most great teaching reputations are established in the same way, through the grateful recall of students, years after the teaching has occurred. In addition, of course, the teacher's reputation is established by his impact on his fellows through his scholarship and his personal qualities. But the recall of his teaching itself, seems to await the maturing of his students.

In Peterson's book the students are often as distinguished as the professors: Carl Becker portrays Frederick Jackson Turner; Stuart Sherman recalls George Lyman Kittredge; John Stuart Mill recaptures James Mill, his father.

As one reads from teacher to teacher; from Ann Mansfield Sullivan who

taught Helen Keller, to James Russell Lowell describing the lectures of Emerson; it becomes increasingly clear that no such thing as a "teaching personality" can be generally defined in any useful way. The complexity of the teaching relationship far exceeds our ability to classify it. I shall quote here four statements which illustrate the variety with which we have to deal.

Leverett Wilson Spring writes of Mark Hopkins:

> Dr. Hopkins' method was Socratic. Of him as well as of the old Greek it may be said that he had a genius of interrogation. It was a keen, skillful, kindly questioning, not without accompaniment of quaint and humorous remarks. In later years it was seldom that much irony came to the surface. . .Whether Dr. Hopkin's came to regard irony as "the language of the devil" and therefore to be renounced, I am not wholly certain, but it seemed gradually to disappear from his teaching. . .The general temper of his classroom was that of absolute candor and fairness.

Of William James, Dickinson S. Miller writes:

> . . .Moreover, he bore with us with never a sign of impatience if we lingered after class, and even walked up Kirkland Street with him on his way home. Yet he was really not argumentative, not inclined to dialectic or pertinacious debate of any sort. . .He almost never, even in private conversation, contended for his own opinion. . .The disinclination to formal logical system and the more prolonged purely intellectual analyses was felt by some men as a lack in his classroom work, though they recognized that these analyses were present in the "Psychology." On the other hand, the very tendency to *feel* ideas lent a kind of emotional or aesthetic color which deepened the interest.
>
> In the course of the year he asked the men each to write some word of suggestion, if he were so inclined for improvement in the method with which the course was conducted; and, if I remember rightly, there were not a few respectful suggestions that too much time was allowed to the few wrangling disputants.

Stuart Sherman reports that George Lyman Kittredge was a demon as an undergraduate instructor. He assumed nothing but general ignorance and inattentiveness in youth. So he terrorized them into attention, striding before the blackboard waving a terrible pointer:

> We are about to enjoy a bad quarter of an hour.
>
> "Mr. A! How does a play begin?"
>
> "With dialogue," hazards Mr. A.
>
> Mr. B! How does a play begin?"
>
> "With the introduction of the characters," Mr. B stammers anxiously. . .The hunt is afoot. The next dozen men go down amid derisive snickers—no one dares to laugh aloud—like clay pipes before a crack marksman. Panic spreads. Half of us refuse to answer to our names. The other half, in desperate agitation between an attempt to conjure up any sort of reply and a passionate desire to sink through the floor, shudderingly wait for the next victim, till the pursuer, at last weary of the sport, cries out, "A play begins in *mediis rebus!*". . .

> Mr. Z ventures on a surly pleasantry and is greeted with an invitation to "come over and swap jests with me at 2:30 this afternoon." We all envy Mr. Z as we should envy a man invited to take supper in a lion's den. Like many other of the great experiences of life, it was a rigorous ordeal while one was undergoing it, but it was pleasant to look back upon years afterward, and, like Purgatory, it was very salutary.

And Carl Becker on Frederick Jackson Turner:

> . . .three qualities of the man's mind made upon me a profound and indelible impression. These qualities were: a lively and irrepressible intellectual curiosity; a refreshing freedom from personal preoccupations and didactic motives; a quite unusual ability to look out upon the wide world in a humane, friendly way, in a fresh and strictly independent way, with a vision unobscured by academic inhibitions. These are also the qualities, I think, which have enabled him to make an "original contribution" (not so common a performance as is so often supposed) to the study of American history.

In his *Teacher in America* Jacques Barzun discusses the lecture method in these terms:

> The lecture room is the place where drama may properly become theater, This usually means a fluent speaker, no notes, and no shyness about "effects." In some teachers a large class filling a sloped-up amphitheater brings out a wonderful power of emphasis, timing, and organization. . .The "effects" are not laid on, they are the meaningful stress which constitutes most literally, the truth of the matter. This meaning. . .—as against fact—is the one thing to be indelibly stamped on the mind, and it is this that the printed book cannot give. That is why their hearers never forgot Huxley lecturing, nor Michelet, nor William James. . .in the hands of a great lecturer it is feelings and principles that illuminate the soul as does a perfect play or concert.

I conclude these quotations with the Barzun quotation because I think he has got hold of something here which goes beyond its context. One can immediately infer from the quotations above that the didacticism of Hopkins would not have helped Turner, that the heavy-handed irony of Kittredge would have annoyed and angered Hopkins, that the formalism of Wilson would have ill-suited William James: that each in short had virtues in themselves which are vices in others. The act of teaching is a whole act, and I think we are in error when we attempt to judge it through the sum of its alleged components.

How then may we judge it? The Barzun quotation provides a clue and the Peterson quotations provide evidence. The full meaning of the act of teaching cannot be established by the performance of students on examinations, by checklists of dos and don'ts, by supervision of instruction, nor by administrative rigor. That fullness lies in the illumination of the minds of a number of students in the class of the teacher. This illumination can be recognized by a mature observer, it can be studied, counselled for, and re-enforced. Its absence can be noted, reasons for the absence assessed, and attempts can then be made to establish it. The objection can immediately be made that although great men can recognize the strengths and

weaknesses of great teaching, most of us are neither great teachers nor great men; that what may serve the great may not equally serve the usual. But the business of becoming great is not granted by natural fiat. One might have sat in the classes of Wilson, of James, or of Kittredge at one period in the careers of each, aware only that an interesting young man was conducting a classroom session. I suggest that because they discovered what worked for them in their classrooms and developed the meaning of their teaching—that synthesis derived from a complex of subject, student, and teacher—we name them great now.

What seems unnecessary and unfortunate is that the teacher should wait for criticism of his teaching until his students mature. The kind of analysis offered in the Peterson book should be helpful to any teacher. There should be means available to college teachers by which mature, thoughtful criticism of their teaching might be secured.

Several such means occur to me, and only the weight of tradition seems to operate against them. In every field there are men whose scholarship and teaching facility have been proved. These men might be encouraged through grants by foundations, through support from national agencies, or through endowment, to give a year or two of their time to visiting the classes of younger men, or beginning teachers, offering their help and advice to those who wish it. Such visits should be extended for two weeks or more, if possible. Surely if extended advice can be granted on the average Ph.D. dissertation, such advice would be welcomed on the much more complex problem of teaching. Easier beginnings can be made. Colleagues can visit and criticize colleagues. One who does not hesitate to disagree with a colleague's conclusion about a matter of scholarship should scarcely be hesitant to discuss with his friend the matter of the effectiveness of his teaching. Another and most important means, and one rarer than many would expect, is introspection and reflection of the teacher himself upon his teaching. Surely if reflection is necessary for a man to produce sound work in his field, and to get it on paper, the more difficult job of communicating its meaning and force in the dynamo of the class deserves his most profound reflection.

The discussion of teaching can be extended. Our journals are full of highly specialized and remote writing upon obscure and difficult portions of each field, but there are few articles appearing in these journals having to do with the teaching of any of the aspects of the fields. Such discussions are important not only for those who read them and speculate upon them, but for those who write them. They throw light upon peculiar problems which are involved in teaching in the field as certainly as do the production of smaller articles in *Modern Language Notes.* Such writing has been suspect in the past, or at least has not seemed to merit attention from the journals; perhaps it has not even been produced, except in magazines devoted to the literature of education. Means less mechanical than the student check list can be devised for the assessment of teaching. Following William James, students can be asked to write somewhat full criticism of the teaching they undergo, guided perhaps by a few intelligent questions from the instructor. Numerous administrative devices are available to stimulate the criticism of teaching. The require-

ment of constantly revised syllabi, while it may appear to some to be an infringement on the precious right of the classroom teacher to organize his work as he goes, seems nevertheless to provide one means by which instructors must criticize what they teach. Frequent meetings of one sort or another, either in organized seminar or in less formal discussion groups can be encouraged, and in these meetings full and free discussion developed.One of the best means for the stimulation of interest in the teaching field can be a group, meeting perhaps for dinner together, for the purpose of hearing a paper from a member of that group on some problem connected either with his research or with his teaching, and providing a stimulation for both improved teaching and improved research. Numerous films have been produced, among the most useful, those developed by Paul Klapper at the University of Chicago on "Teaching by Discussion." These provide critical material less personal than the observations of one's colleagues and, as such, stimulate the discussion of discussion. All of these devices seem to me to provide means by which criticism of teaching may be fostered; that such criticism is the means of improvement of teaching is the point of this paper.

Henry Adams writes:

> Such little knowledge of himself as he [Adams] possessed warranted him in affirming that his mind required conflict, competition, contradiction even more than that of the student. He too wanted a rank-list to set his name upon. His reform of the system would have begun in the lecture room at his own desk He would have seated a rival assistant professor opposite him whose business should be strictly limited to expressing opposite views. Nothing short of this would ever interest either the professor or the student; but of all university freaks, no irregularity shocked the intellectual atmosphere so much as contradiction or competition between teachers. In that respect the thirteenth-century university system was worth the whole teaching of the modern school.

What is so interesting here is not that Adams preferred debate to lecture, or the perhaps interesting speculation that with some subject matters and with some teachers he may have been correct, but that here is evidence of a man concerned with his teaching, with discovering what may be useful to him, with the criticism of his own practice. His disappointment with discovering that an interesting pedagogical idea had no appeal for his colleagues or administrative officers points to a major difficulty in securing either improved evaluation of teaching or improved teaching itself. A lively well-considered experiment does not experiment with young minds, as is so often charged, but experiments rather with new ideas and performances without which growth is impossible. It seems reasonable that providing for what is supposed to happen to the young mind is as responsible an activity as checking a list which indicates whether or not it has happened.

I have attempted to show that the analysis of teaching factors which apply universally is limited in recognizing or evaluating good teaching. I must repeat that such analysis is better than nothing. It remains to add that it is not enough. When teaching is viewed as a whole act done by individuals; an art worthy of the most competent critical concern, it will receive no more than its just due.

THE TEACHING STAFF AND STUDENT CONDUCT

Thomas Allan Brady

The responsibility of the faculty for the conduct of students rests upon the powers and responsibility of the governing board. This governing board, customarily, delegates to the faculty the authority to make rules governing the general conduct of students. Quite frequently the faculty also sets up a committee and delegates to this committee the enforcement of its rules of student conduct and the assessment of penalties for the breach of them.

In a large university of complex organization, the delegation of authority over student conduct is usually made by the governing board to the University faculty rather than to each divisional faculty. The sole reason for this is the need for uniformity throughout the institution.

Disciplinary penalties levied by the faculty committee must be implemented and carried out by administrative officers and employees. An enrollment must be cancelled, terminated or barred; a notation must be made on a record card, or some other action taken, usually by an official in an administrative position. Since these officials work under the administrative authority of the President, it is usually necessary to have a formal approval by him of the actions of the Conduct Committee. Briefly, it is the President's approval which serves as an order to administrative officers to carry out the actions taken by the Committee. As a rule, the President would not have the authority to change or modify a decision of the faculty committee, although it is necessary that he should have the right to grant an appeal to some faculty authority, perhaps the Committee of Deans, and, always, to the governing board.

There grows up alongside these academic routines, however, newer procedures which are established to carry out the decisions of professional experts in the fields of medicine and psychiatry. In many institutions, the officials in charge of medical and psychiatric work will have authority to take action on medical grounds, to bar enrollment or to terminate enrollment of a student. These agencies will also have the authority to make submission to medical treatment a prerequisite for continued enrollment. In these cases, neither the Conduct Committee nor the President is involved since the decision rests on a medical opinion or judgment and lay authorities do not attempt to validate this decision. In some cases, the initial information on the case may have been discovered by the Counseling Service or by a Mental Hygiene Clinic conducted by clinical psychologists but, for obvious reasons, the ultimate decision is made and the action is taken by the highest medical officer, usually the Director of the Student Health Service.

Such are the agencies formally invested with authority and responsibility for student conduct. There is one other. Each divisional faculty is frequently invested with the responsibility which statutes place upon governing boards. This responsilibity is expressed in the University of Missouri catalog (1954) p. 73, as follows: "Any faculty may decline to recommend a student for a degree because of

lack of moral qualifications even though the student has completed all the formal requirements for the degree."

The formal disciplinary actions are usually, in order of increasing severity: probation, suspension, dismissal, and expulsion. Disciplinary probation, frequently carrying conditions, places the student in a status of restricted activity and constitutes notice that further violations will lead to more serious penalties. Suspension carries with it an interruption of the student's educational activities for a definite, stated period. Dismissal interrupts and terminates these activities for an indefinite period until the authority imposing the penalty sees fit to reinstate the student. Expulsion is a termination of enrollment but is regarded as final, and, although the body imposing this penalty may review its action at a later time, it is generally felt that no conceivable contingency would bring about reinstatement.

In view of the nature of the penalties, it is common practice that several agencies may impose the milder penalties of probation and suspension. The Dean of Students frequently imposes these penalties. The divisional deans, the President, sometimes the Secretary or Bursar; the Director of the Health Service as well as the Dean of Students may impose the penalty of suspension although, in most cases, the action is subject to the approval of the Committee on Conduct. Suspension is the penalty used to force students to comply with University regulations. In these cases it is not intended as a punishment for an act committed but is a means of forcing compliance by preventing the student from attending classes for a stated period or until he complies with regulations.

As a rule, only the faculty committee on conduct may use the penalties of dismissal and expulsion. In these cases, the student is separated from the University Community—not primarily as a punishment for what he has done—but on the ground that, in view of his present conduct, the student is not amenable to education and is a bad influence upon others and upon the community. In other words, this student constitutes a drag upon the educational process and, unless some of the drags are removed, the quality of the educational product cannot be safeguarded.

So much for formal disciplinary actions. It is clear that these actions are taken after infractions have been committed and, although not technically punishments, they are *ex post facto* consequences similar, in this respect, to legal penalties. Only in the case of probation is the penalty designed to enable us to guide and counsel a student and rehabilitate him, so to speak, as a good citizen in our academic society.

From this brief review of the administrative process for regulating conduct of students, one might conclude that only the disciplinary agencies named have any responsibility in the matter. But a consideration of the legal and philosophical basis of this whole procedure, will indicate that every staff member carries a heavy responsibility in this respect.

The legal theory of our relationship to students enrolled in the University, stated several times by the courts, is that the University, hence the staff members who constitute it, stands in the relationship to the student of a parent to a child. The law expresses this by the phrase *"in loco parentis."* Presumably the student has

a natural parent who does not relinquish all his natural and legal authority when the student goes to school. But while the student is enrolled, the natural parents share this authority with a legal or fictitious parent, and within the regulations of the institution, the decisions of the fictitious parent are paramount. Hence, every staff member has this parental relationship to the student and is responsible for his conduct in all the situations which occur in conditions under the control of that staff member. And not only is the teacher responsible in this way in the classroom where he is in sole control, but he has an obligation, as long as the student is enrolled, to act or enable others to act in any situation requiring regulation of the student's conduct.

Now, according to the rules of the institution, the teacher is in control of the class which he conducts and is, thus, during this time, in sole control of the situation. But outside his class the teacher is still an officer of the institution. Although, according to the rules of the institution most staff members are not invested with general disciplinary authority, they still have the obligation to see that proper conduct is maintained and enforced. Hence, information which comes to their attention about student conduct cannot be ignored or filed away. A staff member who possesses such information, as an officer of the institution, has the obligation to either take action on the information himself, or if according to the rules of the institution, he himself cannot act, he is bound to make such information available to an agency which is able to act upon it.

Any staff member who feels that his information about student conduct is confidential and therefore cannot be disclosed, must himself act if he can, or if he cannot, he must insist that the student free him from the confidence or disclose the information to the proper agency himself. In the last analysis, it is the staff member's judgment which must dictate his acts. What this means is that if he decides that he will not disclose the information and will not or cannot act upon it himself, then he assumes the responsibility for whatever happens as a result of his decision.

This is not to say that each teacher is a policeman—any more than I would say each parent is a policeman. In neither case is the primary intent to punish or vindicate the authority of society. The aim in both cases is to promote the welfare of the people involved and to make them upright, responsible citizens. The family, being a remedial institution of almost unlimited functions, goes much farther in its rehabilitation of recalcitrant youth than an educational institution can ever go. Somewhere along this line of rehabilitating the wayward youth, the school has to draw the line and say, in effect, "if we are going to maintain this as an educational institution, we cannot carry our program of rehabilitation and remedial service beyond a certain point." We draw this line freely in the sphere of intellectual aptitude, and we have to draw it somewhere in the field of disciplinary rehabilitation. We cannot insist upon remedying every situation that is theoretically remediable—whether the deficiencies are physical, mental, or moral. We cannot usurp the functions of other social institutions and even in cases in which society has set up no other institution to seek a remedy, it may be that we cannot assume the function ourselves. We must furnish such services of this type that are necessary in order

to enable us to carry on our educational work. We cannot specialize upon them to such an extent that it changes the aims and functions set up for us by the laws of the state .

But we must not forget that our primary interest and concern is for the welfare of the student. Hence if we must, for his own good and the good of others, separate a student from membership in our community, we should be prepared to consult and advise with the natural parent concerning the needs of the student involved. We can, and at times must, abandon our responsibility for the student by dismissing him from the University. But the natural parent cannot abandon his responsibility and he deserves all the help and assistance we can give in bringing the child into the proper environment or institution in order that his rehabilitation may be effected.

There are state universities which hold that, according to law, they cannot dismiss a student or refuse him the right to attend for any reason other than his mental or physical inability to do the work required. This is not the legal theory upon the basis of which the University of Missouri operates. The Board of Curators is explicitly directed to concern itself for the moral character of those to whom degrees are granted. Moreover, the Board, with wide powers of government resting in the Constitution itself, has indicated its policy many times that students must be held accountable to a standard of conduct in accord with the standards generally approved by the community. It is this standard we are directed to use in our evaluation of the conduct of students.

In the past, it was the practice at the University of Missouri to allow the teacher to decide whether he would impose his own penalties for cheating or whether he would report the student to the Committee on Conduct. In January 1952, this practice was changed by resolution of the Committee of Deans. For some time it had been clear that there was great lack of uniformity in enforcement of penalties for cheating on written work. Some teachers regularly, would give the student involved a grade of F in the course, others made it a rule to give a failing grade on the particular examination or written exercise, while others invalidated the written work and allowed the student to do the work over for a grade.

There were rumors, of course, of teachers who did nothing when cheating was discovered and more persistent ones concerning teachers who used little sense in the preparation of examinations and no care in safeguarding their security. One thing is certain and all teachers will admit it: much of the cheating on written work by students is closely tied to the procedures and policies used by the teacher in teaching the course, making assignments and examinations, and in grading the written work. Not only is maximum security essential so that the questions asked do not become known to some students beforehand, but, what is even more important, the testing program must be educationally sound; the questions must be fair and discriminating, the material must be adequately covered, and, above all, the questions must fit the course as taught that semester and not be lifted from the files having been made for the course as taught five years before. Concerning the security of tests, students even report that some professors use the identically same tests

for several consecutive years, having mimeographed a supply for several years at one time. This is shoddy teaching. We all know it, but, apparently, we tolerate a few lazy members of the profession who continue to practice it.

The ultimate responsibility when academic dishonesty occurs is on the teacher since the infraction is closely tied to the teaching process. That is why the rule adopted by the University of Missouri in 1952 channeled reports of cheating not from the teacher to the Committee on Conduct but from the teacher to the Academic dean. Moreover, the teacher is required to report the incident, with documentation, to the Dean before any action is taken. The Dean may allow the teacher to act, under instructions, he may take action himself (Deans have various disciplinary penalties which they may impose) or he may refer the case to the Committee on Conduct. In a large university, it is not always clear to whom one refers when he uses the words "academic dean." Frequently the teacher is under one dean and the student under another. The rule on cheating provides that the teacher reports the case to the dean of the division in which the teacher is employed. If the student is enrolled in a different division, then the dean to whom the report was made takes it up with the other dean. It is the dean of the division in which the student is enrolled who has the alternatives of allowing the teacher to act, taking action himself, or reporting the case to the Committee on Conduct.

What about uniformity? Some diversity is avoided since there may be several hundred teachers but less than a dozen deans. The rule envisages and, in many cases requires, that deans consult with each other and attempt to keep their penalties uniform.

There is an even greater educational advantage than uniformity of penalties, although admittedly uniformity is desirable. If cheating by students is frequently related to the professional job the teacher is doing (and this conclusion seems to be inescapable) this procedure gives the dean, who is the responsible employing official, the opportunity to evaluate the work of the teaching staff. If teachers do not report cases of cheating to the dean, students are bound to report the fact eventually. If the case reported is of a particular nature it almost inevitably shows that the teacher is inexperienced and green, or incompetent. In any case, it gives the dean the kind of view of the faculty's work that he ought to have.

In conclusion, let us recall the fundamental philosophy on which the actions of the Committee rest. Remember that, being *in loco parentis* to the students, we are interested primarily in the welfare of the student and his fellow students. Remember too, that our mission and function assigned by the laws and the Curators is that of an educational institution of the formal type, all other activities being secondary to and for the sake of this main purpose. Remember that the University is not a law-enforcement agency. We can decide only whether a student may attend here and how he must conduct himself in order to attend. We have no police or machinery of apprehension. Since a body of 10,000 young people is likely to have in it some persons with criminal tendencies, there are times when we almost wish we had some police. Some universities do.

Moreover, the Committee on Student Conduct is not a court of law and it holds no trials. It holds hearings and arrives at judgments in the same way that parents arrive at disciplinary judgments concerning their children. It does not prosecute crimes or other violations of law but administers University regulations concerning students' conduct.

TIPS ON MAKING TESTS

Robert S. Daniel

The origin of the objective type test item is rather obscure, but one of the very earliest references to its use in the college classroom is an article published in 1911 by Dr. A. P. Weiss, then an instructor in psychology at the University of Missouri. Even then Dr. Weiss showed his fundamental objectivity which was to become the very core of a creative career. The basic advantage of this "new type" test (as he then called it) is its ability to sample a larger number of facts and principles, attitudes, methods and skills, or whatever the student is supposed to have learned. This is a very real advantage for it leads to greater dependability of measurement and frees the interpretation of that measurement from bias or prejudice on the part of the grader.

Dependability of measurement is known technically as test reliability and freedom from subjective interpretation is called scoring reliability. You could get a view of the significance of this latter factor most clearly by having someone else grade independently a set of examinations you have just finished grading yourself. If two competent judges should give vastly different marks to the same set of papers, then what is the true worth of the students who wrote those papers? But perhaps we should leave this little demonstration in the realm of the hypothetical, since the shock would be great for many of us. If there are more than a few students in your class and you are using 4- or 5-question essay tests, then your student evaluation is almost certainly unreliable. Published reports of many studies provide the basis for such a criticism of traditional tests.

For this reason and others, I shall confine my remarks to the objective test. Although reliability is much better, other problems are introduced when a teacher chooses to use the objective variety. It is to a few of these questions that we shall direct our attention. The assumption is made at the outset that the aim of testing is to test and nothing more. We want to measure student growth in the subject covered. The problem is to develop a measuring device which differentiates students on this factor and this factor alone. Each course has at least three basic objectives, with emphasis perhaps being on one or another of them: (1) learning of facts and principles, (2) development of attitudes and ways of thinking, (3) "higher order" learning such as generalization, analysis, and the making of inferences. No matter how effectively we teach these things we must also adequately measure pupil gain, and this is a problem in assessment of human behavior.

Types of Test Items

In terms of the memory process the student must employ, there are only two basic test types—recall, in which he must reproduce material learned with only a minimum clue provided by the examination itself, and **recognition,** where the material is reproduced on the test in a manner whereby the student signifies whether or not he has learned and understood it by using it properly in the test situation. The former is more difficult and measures only the most securely learned material.

Recognition tests sample, in addition, less well established learning and therefore give a more sensitive overall picture of student mastery. Essay tests depend upon recall, whereas objective tests may be so constructed as to depend upon both types, but they usually emphasize recognition only.

If we analyze further, we can identify subclasses of these two types. Recall may be either essay or short answer (sometimes called semi-objective). The short answer item is the kind which requires only a single word, phrase, or sentence. For convenience, the recognition type is usually classified into three subvarieties, although there are many ways of presenting each of them on the examination paper. **Two-choice recognition** is more familiarly known as true-false. **Three- to seven-choice recognition** is the typical multiple-choice item. When there are **ten to fifteen** choices, the items are best arranged as a matching type and the same set of possible answers supplies a number of questions.

Evaluation

Because of the many variations possible on each of these basic types, it is rather difficult to evaluate them. An impressive number of studies in the literature gives us some aid on the matter, although contradictions among the experts may be found. Studies are available which compare them on such diverse criteria as ease of preparation, accuracy in scoring, the number of items per unit of testing time, freedom from secondary clues, freedom from student guessing, adaptability to different materials or different teaching objectives, reliability (consistency of measurement), validity (the accuracy of measurement), and still others. If I may be permitted tremendous condensation, the trend of these studies indicates a ranking something like this: multiple-choice is the most acceptable, next is matching, then in third place is short answer recall. True-false tests are poorest.

On many of these comparisons, the differences between types are not great, whereas on others the differences are clear. Little disagreement can be found in the literature with my first and last choices—true-false is surely the most limited and multiple-choice the best. I am not so sure about matching and short answer. It may be that their positions should be reversed. Furthermore, specific circumstances may well make the use of a generally undesirable type defensible.

How To Make Test Items More Effective

Earlier I made reference to the criticism against the essay test. There is also a serious objection to the other variety, namely that it is confined to the most elementary goals, that of factual knowledge or rote learning. It is certainly true that objective tests do not adequately measure the ability to organize facts and opinions into a convincing argument or to write clear exposition. Where such skills are important the essay type should be used to supplement the objective test. The criticism that objective tests favor the rote learner is unjustified, however, except for objective tests at their worst, which usually means true-false items taken verbatim from lecture or text. The only defense of such a practice is that it saves time.

Objective tests **can** measure ability to generalize, to explain, to interpret, to

make inferences, to apply principles, to evaluate. Handbooks on the subject are filled with good examples. It is suggested that you search those listed at the end of this report for samples in your own subject area. It does, of course, require less time to construct "fact" items than it does to construct "thought" items. An additional problem is that the inherent advantage of increased reliability may well be lost unless certain basic requirements are met. Finally our tests must be truly diagnostic if they are to discriminate student growth in the course material with the precision we seek.

In the remainder of this paper I would like to make some suggestions from the available evidence for (1) improving reliability (and indirectly validity) of the multiple-choice test, (2) the measurement of higher order learning with the multiple-choice test, and (3) evaluation of your own tests for diagnostic properties. Similar suggestions for the other varieties of objective tests and for the improvement of essay tests may be found in the references.

Increasing Reliability. There are a number of factors which enter into the determination of reliability. Not all of them are readily controllable in the typical informal classroom test. Since technical aspects of reliability and validity are not our concern at the moment, let us consider only certain suggestions for improvement which are manageable and which are likely to show a desirable effect. As a guiding and integrating principle, let us keep in mind the need for eliminating everything possible in test items which does not contribute to the assessment job. You cannot measure reliably the length of a board, for example, if your yardstick is contaminated with measurement of units of hardness, color, size of grain, lumber greenness, or other things in addition to linear extent. Just so with our achievement test "yardstick."

1. Avoid ambiguity and confusion. Poor tests sometimes are merely puzzles which measure intelligence more than knowledge. Typically, the task should be clearly delineated in the stem (or premise) which may be in the form of a direct question, an implied question, an incomplete statement, or a problem statement. The choices should follow the stem—preferably in column form if space permits. Reduce the mechanics of the test to a minimum; avoid the necessity of long complicated instructions. Time required to figure out what is wanted is time not available for answering questions.

2. The most effective number of choices is four or five. Less than this enhances chance success and more than five leads to confusion. All choices should have about equal plausibility for those without knowledge of the material. A good way to build a list of plausible answers is to present a few answers, then leave a blank for the student to fill in his own if he does not like yours. Students can think of incorrect plausible answers with greater facility than you can. This assumes that you keep a file of questions, and that you use questions again, but do not repeat whole examinations.

3. Students should designate choice by placing the number of their answer in a space provided along the margin (or on an answer sheet). Alphabet letters, or

other designations, are either more difficult to grade or more subject to error in grading, than are numerals. Chance errors of this sort are a major factor in reducing reliability.

4. Watch yourself carefully for the inclusion of irrelevant secondary clues. Such "giveaways" are not always easily detected in one's own writing. Avoid making the correct answer always the longest answer. Randomize the position of the correct answer, but use number 3 in less than one-fourth of the items because this is the favorite choice in random guessing. Correct language usage sometimes reveals that only one answer could fit the question: recast the item or use, e.g., ". . .a (an) . . ." Handbooks on test construction will show examples of how items are sometimes answerable on the basis of superficial knowledge rather than the knowledge you think you are measuring.

5. Make the items structurally and functionally smooth. All choices in an item should be of the same grammatical or other form (i.e., all numbers, all nouns, all phrases, etc.).Surely we should avoid a mere collection of unrelated true-false items which happen to begin with the same subject. Possible answers should be true alternatives. If the wrong answers have about equal difficulty you have a better item than if they vary widely in difficulty.

Measurement of Higher Order Learning. It is easier to write multiple-choice items which measure only factual knowledge, but it is more compatible with good teaching objectives to measure the student's comprehension of the material. The principle applicable to this problem is that items should be so constructed that the student is forced to employ some important thought process between the completion of the premise and the selection of the answer. Alhough different course objectives require different degrees of the "thinking" element, almost any course should sample such skills to some degree. Likewise, different course contents may well differ in the kind of thought process most relevant. Nevertheless, the following suggestions are generally applicable.

1. Instruct the student that he should select the BEST answer, not the one correct answer. This permits the use of some questions which require keen discrimination between choices and raises the question one step above the memorization measurement level. Vary the form with an occasional question which requires the selection of the least plausible answer, or have him rank the answers in their degree of acceptability. Occasional use of final choice "all of the above" and/or "none of the above" is considered good practice. For definitions try placing the term in the stem and making the choices a series of definitions—this seems to penalize the rote learner.

2. Link your premises to your choices with such terms as "because," "why," "under what circumstances," and other similar expressions. This forces the student to show whether or not he has examined and comprehended evidence. Linkages by analogy fit our principle very well ("A is to B as C is to: (1) D, (2) E, (3) F, (4) G."), but they are likely to be more difficult for the student than the teacher expects and they should not require an ability in abstraction beyond that which the

class can handle.

3. Make questions and answers in the form of generalizations and new applications; that is, state them in a context other than that expressed in the book or lecture. Although in specialized courses the exact technical vocabulary is sometimes very important, the student who is capable of recognizing a concept or principle when stated in a different way or with a new illustration has learned more, it would seem, than has the student who can merely recognize the self-same statement he read or heard. More than anything else, the ability to generalize distinguishes the superior from the mediocre student.

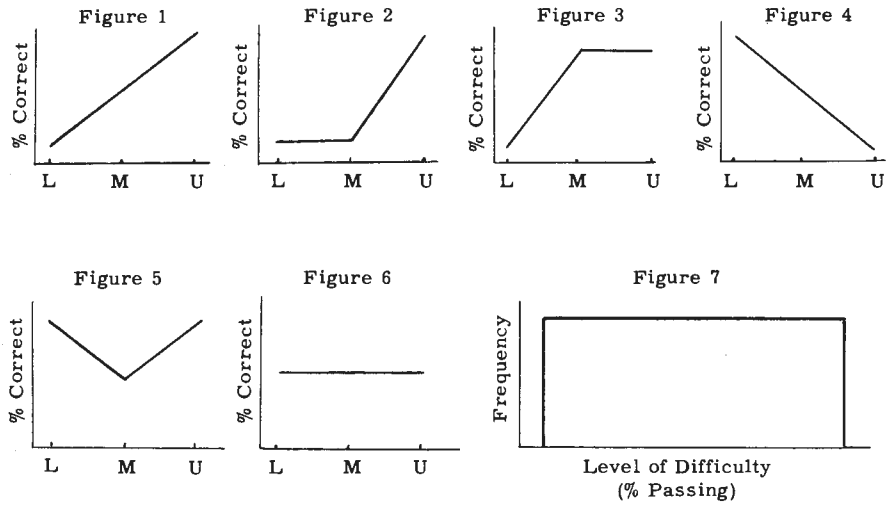
4. Make use of non-verbal material in the stem of the question. Depending upon the subject matter of the course, this may involve charts, photographs, paintings, maps, diagrams, specimens, microscope slides, or other material. It requires only a little planning to organize one or preferably several items around a set of specimens. Apparently it makes little difference whether materials are drawn on the examination paper, shown by slide or poster, or put on the blackboard. Test items of this sort measure the student's ability to handle abstract interpretations directly from concrete materials.

5. Make use of extended verbal material applicable to a number of sets of choices (i.e., items) which follow it. For example case histories, literary quotations, mathematical or other kinds of problems, judicial decisions, scientific experiments, and social situations may be used to "set the stage" for a series of items requiring analysis, organization, interpretation, generalization, application of facts to new material, judgment, and the like. Let me present just one example to illustrate the method: in a science course examination, summarize a new experiment depending upon principles the students have learned, then present a variety of conclusions, as your test items. Require the answer of "1" for all proved conclusions, a "2" for all likely true, but the evidence is inconclusive, a "3" for statements about which there is no evidence, and a "4" for all statements disproven.

Diagnostic Evaluation of Tests. Every item in a standardized test undergoes a rigid examination of its ability to differentiate a superior from an inferior person on whatever dimension of behavior the test measures. The test specialist has many techniques at his disposal for doing this. An informal classroom test can be considerably improved even with one of the simplest of these tools—the item analysis. The principle involved here is rather obvious. We are trying to identify and eliminate test items which fail to distinguish adequate student preparation from that which is inadequate. Items may fail in such a test because they are ambiguous, because they are either too easy or too difficult, or because they are really measuring something else (such as general intelligence). Discovery of the latter factor may involve statistical procedures scarcely justified in the classroom test, but appreciable gain should result from the simple procedure to be described. It is not unusual to find that 25 to 40 percent of the items in a classroom test do not contribute to the measurement intended. Follow the steps below to identify such "deadwood" items, then you will begin to learn what kinds of items are diagnostic and what kinds are not.

1. Classify your end-of-semester numerical scores distribution into thirds: Upper, Middle, and Lower. List the students into groups according to this criterion.

2. Determine the percentage in each group who correctly answer **each** test item used throughout the semester. If an item is fully diagnostic, the percentages will increase progressively from Lower to Upper thirds, in the manner of Figure 1. An item is acceptably diagnostic if it discriminates between Upper third and the remainder as in Figure 2, or Lower third and the remainder as in Figure 3. It is a superfluous and perhaps ambiguous item if it follows any other pattern, such as Figures 4, 5, or 6. It is not necessary to actually diagram the percentages for each item, of course, but you should inspect the percentages very carefully to judge whether or not they are showing real differences between the groups. This procedure assumes that the total testing for the semester is an adequate measure of progress in the course. In evaluating individual items against the pool of all measures, you are measuring inter-item similarity—thus, internal consistency.



3. While you are at it, go on to determine the percentage of **all students** passing each item (regardless of thirds grouping). This is a good index of the item difficulty, and if your test is a good one you will have a uniform number of items at each difficulty level, giving a rectangular distribution of item difficulty, as in Figure 7. Any other type of distribution increases your headaches in attempting to squeeze letter grades from numerical scores. The analysis tells you clearly if you have a tendency to make too many difficult or too many easy items in your tests.

Many other problems suggest themselves—correcting for guessing, making the essay test more objective, techniques for converting scores to letter grades, variations of form of items, adapting items to different subject matter, and others. There is a good amount of literature available on these problems which we could refer to only briefly. In conclusion, let me suggest the four books listed below. I have chosen them to recommend because they each cover the answers to many questions we all struggle with in this task of measuring human behavior in the classroom.

1. Bean, K. L. *Construction of Educational and Personnel Tests.* New York: McGraw-Hill, 1953. pp. 231.
2. O'Dell, C. W. *How to Improve Classroom Testing.* Dubuque: Wm. C. Brown Company, 1953. pp. 156.
3. Travers, R. M. W. *How to Make Achievement Tests.* New York: Odyssey, 1950. pp. 188.
4. Weitzman, E., and McNamara, W. J. *Constructing Classroom Examinations.* Chicago: Science Research Associates, 1949. pp. 153.

THE MISSOURI GRADING SYSTEM AND THE PROBLEM OF EXAMINATIONS

Elmer Ellis

Proper grading is a requirement for good teaching. We test our students for a great many reasons besides grading, but among the reasons that require testing is the allocation of a final grade for each student who completes a course. These grades insure that proper standards of accomplishment are maintained, they furnish an incentive for good work on the part of students, and they furnish an over-all picture of the student's achievement in the course. Testing is primarily designed to improve teaching, but it is that aspect of testing by which a final grade is determined that is the subject of this discussion.

A Good Grading System Carries a Conviction of Fairness and Reliability to Students

It is very important that the grading system be understood by both the teacher and the student. It is absolutely necessary for good teaching that the system be fair and that the student be convinced of its fairness. Any kind of mystery or hocus-pocus surrounding the methods of arriving at grades leads to bad morale on the part of the students and inefficient learning on their part. When it comes to the final grade, a student and his parents have a right to know how a score was determined. The grading system must be one that is completely open and carries with it a conviction of fairness.

The Teacher Should Conform to the Practice in the University and in His Own Department

There is no one best method of arriving at a final grade, but convenience, objectivity and a conviction of fairness are carried rather easily in numerical systems which permit ranking at the end of the course. The systems where points are given for the various tests and other ratings of student progress, and the total used for a final ranking, seems in most areas to be about as satisfactory as anything we have found. There is one common illusion about these rankings, and that is that they make grades absolutely objective and automatic. If all the numbers in the total are arrived at mechanically, this could be true, but even then there is always the problem of drawing the lines which will separate the letter grades from each other and, while there are statistical formulae which can be applied for this purpose, there is no escaping the fact that the drawing of that line usually is a subjective judgment based upon the teacher's rating of the group of students in the approximate area where the line must be drawn.

Teachers in small classes, especially if they have not taught the course before, often find some help in conforming to departmental and university standards by checking the records of students who rank at the probable line itself in their other courses in that and related departments. If four or five borderline students have a straight M record in their courses in the same area, it creates a presumption that the line should be drawn to include them in the M group rather than drawing the

line so as to put them in the I group or in the S group. There is nothing objective about this procedure, but it has in it some common sense assistance to a teacher trying to keep his ratings in reasonable relation to those of his colleagues.

There is no escaping the fact that, even with scaled rankings, the arriving at grades in small classes is exceedingly difficult and must be less objective than with larger classes. Here the teacher's subjective evaluation of quality must play a more significant role and be less influenced by the particular pattern of distribution of the numerical scores.

The Grading System Does Not Require a Certain Distribution in any Particular Class

I cannot emphasize too often that there is nothing in the Missouri grading system that requires rigid adherence to a rule or curve. In general, I believe that it is exceedingly bad psychology to carry the impression to your students that you grade "on a curve" and therefore the grade is purely competitive, for that carries with it too much of the Alice in Wonderland assumption that a student has to run as fast as he can in order to stay where he is. It reminds me too much of Bill Mauldin's cartoon of the front line infantryman, Willie, who after several weeks of dodging enemy projectiles concludes that he is a fugitive from the law of averages.

In sound grading, this cannot be true anyway because some classes do better work than others and the differences in quality should be shown in grading even though a large share of the evaluation is subjective.

We should be realistic enough to acknowledge, however, that teachers tend to distribute grades at least at the lower end of the scale regardless of absolute quality. Because the remedial English student was found to be almost hopeless in foreign languages, we adopted the practice of not admitting such students to the foreign language classes as freshmen. In theory this removed nearly all the potential failures from these courses. But in actual fact the teachers of these classes continued to assign as many F's and I's in their classes as they had before these weaker students were excluded. By excluding the weaker group, we simply created a new class of failures as large as the old!

A common superstition among teachers, both young and old, is that a distribution of grades whereby there are many low grades and few high grades is an indication of good teaching, or at least a difficult course, and that contrariwise many high grades and few low grades indicate, if not bad teaching, at least a snap course. We ought to get this superstition out of our minds quickly or we are not going to have either sound grading or good teaching. Most of you can testify from your own knowledge that some instructors who habitually give exceedingly low grades are weak, ineffective teachers and to some degree seem to compensate personally for it in the grading; most of you can also testify that some other instructors who grade unjustifiably high are, nevertheless, effective teachers.

The Missouri Grading System is Unique

The Missouri grading system itself is a unique system that originated at Missouri and is used only here and at certain other educational institutions in the

state. It grew out of a study, many years ago, by Max Meyer, chairman of the Department of Psychology, and represented, at that time, the actual distribution of grades. (It is interesting that Professor Meyer wanted the faculty to merely rank the students and then have the Registrar assign the grades in accordance with his plan. When the faculty refused, Meyer repudiated the plan as adopted by the faculty.) The original theory as adopted by the faculty was very simple: Fifty percent of the students would do work of medium quality and could be graded M. Twenty-five percent would do work above medium quality and could be graded superior or excellent, and the other twenty-five percent would do work below medium quality and could be assigned grades of inferior and failure. While I have often heard statements to the contrary, there was no indication in the original plan regarding any definite percentage distribution between E and S and F and I. So much for the theory.

Following the adoption of this plan in 1908, the faculty published the grade distribution each year in order to secure a high degree of conformity. The number of E and S grades, which had been over thirty percent, declined until it came close to twenty-five percent. Then the practice of publishing was dropped except for one instance in the thirties. This study showed that we had deviated from the plan slightly in that there were again thirty percent E's and S's and the percentage of I's and F's was only twenty percent. The accompanying table shows what has happened since. The percentage of E's and S's continued to grow through the forties and by last year had become thirty-five percent. At the same time there has been a tendency to increase slightly the percentage of F's. This last is especially clear if it is noted that the percentages for 1947-48 and 1952-53 were computed soon after the grades were in and hence there was a high proportion of Delayed grades many of which later became F's.

Percentage Grade Distribution, University of Missouri

	Courses No. 1-99						Courses No. 100-399					
	E	S	M	I	F	Ex & Del	E	S	M	I	F	Ex & Del
1934-37	6.4	21.5	48.4	14.7	5.6	2.7	6.1	24.2	53.1	10.6	3.7	2.3
1947-48	7.5	23.8	45.8	13.4	7.3	2.1	8.7	26.0	48.0	10.2	4.0	2.9
1952-53	8.8	23.9	42.0	14.0	7.4	3.6	10.4	28.3	42.0	10.0	4.2	4.5

There are certain confusing elements which account for this distribution quite naturally. The most important one is that because of the use of another five point grading system, with A, B, C, D, and F grades, in almost all other universities and colleges there is a strong tendency among teachers with experience in those institutions to translate our E to that A, our S to that B, etc. This would be no problem if on other campuses the A, B, C, system had a distribution such as our own.

But one fact that must be borne in mind is that it does not. To illustrate this, I submit below comparative grade distributions at the University of Wisconsin published in *School and Society,* February 28, 1950, and our own:

Percentage Distribution of Grades 1947-48

	College of Arts & Science University of Missouri		University of Wisconsin				
	Underclass %	Upperclass %	Fresh %	Soph %	Jun %	Sen %	Total %
E or A	7.5	8.7	12.5	16.4	20.0	19.4	17.2
S or B	23.8	26.0	32.0	38.3	44.8	57.8	43.2
M or C	45.8	48.0	34.7	32.9	28.2	19.4	28.9
I or D	13.4	10.2	12.3	8.9	5.7	2.8	7.4
F	7.3	4.0	8.5	3.5	1.4	0.6	3.3

This situation creates a strong pull on our teachers to follow the general pattern and that more than anything else explains the trend in our grade distribution. It is not my purpose to discuss the various questions related to the desirability of our own or the other systems, but merely to state the situation. In spite of the uniformity of our averages from year to year at the University, there are great differences from department to department and among instructors within the same department. Most of these differences are hard, if not impossible, to justify. It should be a matter of concern to each department which varies significantly from the norm.

One rather surprising thing about our distribution of grades is the lack of significant difference between underclass and upperclass grades. This is not characteristic of the grade distribution in all departments, but it is in most. The following examples from two departments in the College show this contrast, department "X" below making little distinction and department "Y" showing a marked difference:

Percentage Distribution of Grades, 1947-48

	Department "X"					Department "Y"				
Courses No.	E	S	M	I	F	E	S	M	I	F
0-99	6.4	20.0	49.3	17.0	6.1	5.0	21.9	55.3	10.8	5.0
100-399	4.3	21.1	55.2	13.2	3.2	13.6	43.1	36.1	4.0	1.1

The Basic Weakness of Most Examinations is That They Test Only the Memory of Isolated Bits of Information

The major failure of the grading system is not any particular distribution of marks. On the contrary, it is the failure to keep tests and examinations, on which grades are based, in close relation to the purpose of the course. The great majority of tests which come to my attention, both objective and essay types, are overwhelmingly concerned with the recall of isolated facts. In some instances, a more complicated reaction could also produce the answer, but simple recall is usually the skill that is used in answering. Unfortunately, one of the results of the use of

the objective test has been to increase this tendency to emphasize the recall of isolated information. College examinations, when critically examined, bear an all too striking resemblance to radio quiz programs. There is not a college teacher who does not claim many other results for the course he teaches but he rarely examines or measures achievement in terms of progress toward these ends. The effect is extremely bad upon the work of students in his class. They quickly learn, if they have not carried it over from high school, that grades do not depend upon the achievement of the objectives stated for the course but upon the ability to recall a high percentage of facts about a relatively small area of knowledge. Consequently, their effort in the class is concentrated heavily upon finding out for this instructor and this course what that group of facts is. It also has a bad effect upon the teaching of the instructor because consciously or unconsciously he tends to teach for his tests, and consequently his course loses much of the value it could have in a liberal education.

The Purposes of the Course Must Be Clearly Visualized and the Tests Built About these Purposes or Objectives

One cannot ignore the fact that evaluating a student's achievement, in terms of educational objectives, is an extremely difficult and intricate process. One of the great difficulties, of course, is that for many of our goals the real test is not today, but ten or twenty years from now. Let me illustrate this by listing some objectives for the sciences and for the humanities which I select from a longer list in a current publication. I use these because they are reasonably typical, although illustrations would be as easy for the social sciences and fine arts.

Science:

"To act in the light of understanding of natural phenomena."
"To use scientific methods in the solution of problems."
"To employ useful nonverbal methods of thought and communication."

Humanities:

"To find self-expression in literature."
"To share through literature man's experience and his motivating ideas and ideals."
"To practice clear and integrated thinking about the meaning and value of life."

Once you state such objectives and think of them in terms of the examination which we use in our classes, you quickly see the lack of any close relation between these purposes and the basis upon which we arrive at grades. The reasons we have fallen into this bad practice are, of course, easy to understand. Skills and factual knowledge are easy to measure; interests, attitudes, appreciations, and a particular quality of thinking are difficult and indeed often impossible to measure. The real deficiency is that when we do not measure or attempt to rate them, we rarely teach them.

Good teaching involves, on the part of both teacher and student, a clear concept of its goals. These must be stated in such a way that a student is convinced

they are desirable for him. Then the examination system should measure progress toward the achievement of these goals as effectively as is possible.

Care Must Be Exercised in Testing to Make Certain That Some Students Do Not Gain Unfair Advantages Over Others

The common use of objective tests for final examinations has increased certain problems centering about this phase of testing. The using of the same or slightly revised tests year after year encourages students to acquire them from various sources, especially the "files" of organized houses. There are real advantages in revising a test after experience with it and using it again. It is a better measure than a newly prepared test. But it is nearly impossible to keep the earlier form of the test from some members of the class, especially if it is used in a large class. Careful distribution will help, but probably nothing can prevent a determined group from recording what they recall of the test immediately after taking it, and securing a large proportion of its items.

Even where the test is made new each year, many teachers automatically go back to the same elements to use in it as were used the year before. The result is that the student who has a copy of last year's test has an enormous advantage over the student who does not have it. It was for this reason that the faculty of the University decided some years ago to maintain public files of final examination questions in the Library where all students could get access to them. That, it was felt, would at least put all students on an even basis. No doubt it has helped. But building the files is not mandatory, for many thought it better to husband their objective tests and try to keep them out of the hands of the students. Teachers who have been extremely careful in their distribution and collection of tests and who built up alternate forms to use on successive years, have probably succeeded for the most part, but it is clear that many others have not.

It is fatal for a teacher to be negligent about tests so that they give some students unfair advantages over others. But worse than this is the situation which frequently develops, especially among freshmen, where rumors that a certain final is "out" does infinite harm to student morale and student morals. After many years of running down false rumors, I am convinced that virtually all of them are false. If someone has a test, it almost invariably turns out to be an old one which may not have much predictive value. One recent case of rumor so disrupted a dormitory that seemingly all study for a particular final turned into a hunt for copies that were universally believed to be "out." (Actually they were not even prepared.) The students were all in their first semester and writing their first finals in college. A check showed that they had been gullible beyond belief.

No doubt these rumors come from a variety of sources. The only source that has been demonstrated, however, is the failing student, who spreads the rumor in order to secure whatever satisfaction he can from the resulting confusion among his more successful classmates.

There is no way of completely solving this problem, but it could be reduced by more ingenuity among teachers in handling final examinations. The question

of filing examinations in the Library needs serious consideration by every teacher who is not doing it. Failure to keep these up-to-date in a course places an extra responsibility upon a teacher to make certain that his students all have a fair opportunity. More attention to testing **before** the end of the semester, and, hence, less emphasis on the final test would be healthful. Most of all, teachers need to keep members of their classes informed as to the testing and grading system to be used. Especially in freshmen classes, it is desirable to discuss the final examination with the class. If copies are not on file, copies of former examinations can be passed out or types of questions to be used can be placed on the blackboard and discussed. If students know what is expected of them, and how their tests are made and scored, they will not be so easily led into panic by rumor mongers.

APPENDIX A

TEACHING AIDS AVAILABLE TO INSTRUCTORS AT THE UNIVERSITY OF MISSOURI

1. **Educational motion picture films and projectors.** The Visual Education Department of the Adult Education and Extension Service has a library of 16 mm films. University Bulletin, Extension series contains lists of films available for use. Included in this library are several which deal specifically with instructional problems. Other films not in this collection may be obtained on a rental basis.

   Motion picture projectors and operators are available through the Adult Education and Extension Service. A small fee is charged for the operator.

   In addition there is a projection room available in 23 Jesse Hall which will seat 50 people. This room may be used for motion picture or lantern slide projection.

   For further information contact the staff in 23 Jesse Hall.

2. **Lantern slides and projection equipment.** Instructors in departments which do not have suitable departmental equipment may borrow from the Adult Education and Extension Service:
   a. Projectors for standard (3¼" x 4") lantern slides.
   b. Projectors for "midget" (2" x 2") lantern slides. These may also be used for 35 mm film strips.
   c. Projectors of the reflector type, for direct projection from opaque plates or books.
   d. Portable screens.

If the classroom is not suitable for setting up projection equipment, attention is called to the projection room in 23 Jesse Hall which is mentioned above.

Since there is considerable demand for this equipment, needs should be anticipated well in advance, if possible. Arrangements may be made for the use of this equipment by calling or consulting the staff in 23 Jesse Hall.

The University Photo Service prepares lantern slides, both black-and-white and colored. The cost of the slides depends upon the size, type, and number ordered. Further information may be obtained by contacting any staff member of the Photo Service in 22 Mumford Hall.

The Library prepares 2" x 2" slides in black-and-white. Any page or sheet, up to about 20" x 30" in size may be reproduced in a slide. Further information may be obtained in the office of the University Librarian.

3. **Sound and recording equipment.** The Adult Education and Extension Service has two tape recorders available for loan to individual faculty members. A complete and continuous sound record of a 30 minute or an hour class can be made with these recorders. This includes a microphone that is sufficiently sensitive to make possible concealing the entire apparatus from the class. The recording may be played back for later study in the pri-

vacy of an office. The recording is heard only by the teacher concerned, or at his discretion.

The Department of Speech has similar wire recorders available for loan to individual faculty members. For information on these, call the Speech Clinic, or consult the staff in 321 Switzler Hall.

The Service has only a few records of an educational nature but has several record players which may be borrowed by teachers for playing departmental, or privately owned, disc records to classes. For further information, or booking, consult the staff in 23 Jesse Hall.

Several departments have collections of disc records, some of which might be useful to courses in other departments. Departments that have records are: Music, Speech, and the modern language departments, including English. There is also the General Library record collection.

4. **Testing Service.** Electrographic pencils, IBM answer sheets, and machine scoring service are available to departments at cost from the University Testing and Counseling Service. In addition, advice and suggestions relative to test construction and other testing problems are available through this service. This service has been found particularly useful for instructors of large classes. Also, testing service is available for general departmental tests. For additional information, contact 1 Lathrop Hall.
5. **Stenographic Service.** The Stenographic Bureau and Mailing Room is equipped with Mimeograph and Ditto machines. The staff includes both typists and stenographers. Stenographic or duplicating work that cannot be handled by the departmental office may be sent to the Bureau on departmental order. Charges to departments are based on cost. For further information call or consult the Bureau, in the Quonset Hut, West of Jesse Hall.
6. **Blank forms for student evaluation and suggestions on classroom teaching.** These are mimeographed forms on which students make suggestions for improvement of instruction. These forms are available for use in individual classes and are administered and examined only by the teacher concerned, or at his discretion. They may be obtained at the Stenographic Bureau and Mailing Room.
7. **Courses and seminars on teaching.** Several departments have courses or seminars relating to teaching in their specific fields. Courses in higher education offered by the College of Education are: D473, College Teaching (2); B473, Philosophy of Higher Education (3); C473, College Administration (2-3); and G407, Methods and Techniques of Counseling (2-3). Faculty members may sit in courses without enrolling or paying fees providing they have the permission of the instructors. Further information on any of these courses may be obtained from the instructor in charge.
8. Copies of **Toward Better Teaching.** These are pamphlets that summarize some talks by members of the staff on the general subject of teaching.

They may be obtained from the Office of the Dean, 210 Jesse Hall.

9. Copies of **Faculty Library Handbook.** This describes the library's facilities for handling reserve books, book purchasing, borrowing privileges, and the use of stacks and carrells. (This is not the Library Handbook prepared for students.) The Faculty Library Handbook is in printed form and is available at the office of the University Librarian or the Loan Desk, 203 General Library.
10. **Book-Shelf on the Improvement of Teaching in the General Library.** This is a collection of recent books and articles with particular emphasis on college teaching and other educational problems.
11. **Counseling and Clinical Services.**
    a. **Counseling Service.** The University maintains a counseling service in which a student may be counseled regarding his abilities, interests, and skills; nature of various occupations; job opportunities and training requirements for particular jobs; and personal problems. Each student desiring counseling is given individual attention by a counselor, who will work with the student regarding his problems. Many instructors have found it advisable to suggest that certain of their students or advisees avail themselves of this service. For further information contact the staff of the Counseling Bureau, Lathrop Hall.
    b. **Reading and Study Skills.** The Counseling Bureau staff also is available to aid students in becoming better readers and to improve their study habits. The work is arranged on an individual basis. For further information, contact the Counseling Bureau, Lathrop Hall.
    c. **Speech and Hearing Clinic.** The Department of Speech conducts a clinic in which students may be examined and advised about the correction of minor as well as major speech difficulties. Any student may receive aid concerning his speech problems, and advisers and instructors often refer students to this clinic. For further information, contact the clinic in Switzler Hall.
    d. **Student Health Service.** Medical service for students is available through the Student Health Service.
    e. **Mental Hygiene Clinic.** This clinic is a unit of the Student Health Service. Students who have personal problems, seem emotionally upset, or who wish to discuss various aspects of their inner lives, attitudes, or behavior are served in this clinic. Faculty members may find that the problems of a certain student are beyond their fields of competency and suggest that the student avail himself of the service of this clinic. They might reassure the student that contact is rather easily made with any of the counselors. Additional information may be obtained by calling at the clinic.
12. **Faculty Club.** The Faculty Club provides an opportunity by which members of the teaching and administrative staffs may become better acquaint-

ed. This organization has proved of great interest and pleasure to many staff members. Further information may be obtained from the Secretary.

13. **Consultation with Colleagues.** The greatest potential aid to a teacher is counsel with his colleagues. Every teacher should feel free to consult other members of the staff, especially his department chairman and his dean.

APPENDIX B

TEACHER EVALUATION QUESTIONNAIRE

University of Missouri

A faculty committee has made up this questionnaire as a means toward improving the contributions of teachers to the students' education. The use of this questionnaire means that your instructor wants to do a better job of teaching. A sincere and thoughtful effort on your part in filling out this form will be a help to your teacher and will be greatly appreciated. No one else will see the completed forms.

First, please rate your teacher on the qualities shown below. The title defines the quality, and the phrases underneath the line illustrate the quality and show ways in which teachers may vary. After reading the title and the illustrative phrases, you are to place a check mark on the line at whatever place (not necessarily on the dot) best shows your own estimate of the teacher **on that trait.** If a phrase happens to fit **exactly,** check the dot over that phrase. Concentrate on the specific trait; a general estimate will be called for later.

One rating scale had to be made up for all teachers in the University, therefore not all the items will fit each course. Whenever you find a rating or question that does not apply to this course, leave that item blank. Please answer these questions in terms of **your own** reactions, not those of students in general.

Please do NOT put your name on any of these pages.

1. Organization of Class Meetings

Noticeable lack of organization	Satisfactory organization	Exceptionally well organized

2. Teacher's Interest in the Subject

Interest seems mild	Strongly interested	Intensely interested

3. How Interesting are the Class Meetings?

Usually dull	Mildly interesting	High level of interest maintained

4. Attention to physical classroom conditions (light, heat, ventilation)

Indifferent to student comfort	Some concern for student comfort	Active attention to comfort of students

5. Knowledge of Subject Matter

Adequate for routine classroom work only	Broad and thorough knowledge	Knows everything there is to know

6. Clearness of Explanations

Explanations usually are not clear	Meaning usually clear to me	Meaning always clear to me; explanation complete

7. Freshness of Presentation

Follows a stale routine	Some freshness in presentation	Presentation fresh, lively, and up-to-date

8. Class Discussion

Usually a waste of time	Often of some value	Usually highly valuable

9. Feeling between Teacher and Class

Class too often antagonized	Teacher and class indifferent to each other	Strong atmosphere of mutual goodwill

10. Self-confidence

Lack of confidence sometimes disturbs students	Good self-confidence	Admirable self-confidence

11. Tolerance

Has no respect for student opinion	Respects student thought, but does not encourage it	Encourages students to criticize and think for themselves

12. Is the teacher easy to talk to and get help from?

Students not encouraged to bring up problems	Available for and helpful in conferences	Friendly and especially eager to be helpful

13. Does the teacher talk in a way that you can understand?

Instruction is regularly too advanced for me	Is occasionally too advanced for me	I can always follow readily

14. Stimulus to thinking

I rarely think of material except when studying or in class.	I occasionally think and talk about subject outside of class	Material provokes a great deal of discussion and thought outside of class

15. Fairness of grading

Grades sometimes seem to be unfair	Grading seems to be fair on the whole.	Very careful and just in grading

16. Use of examination as a learning device

Students left uncertain of mistakes and means of improving	Usually explains and helps students improve	Carefully goes over examinations and helps students improve

17. Major objectives of the course

Major objectives never mentioned or made apparent	Objectives vaguely expressed and rarely emphasized	Objectives clearly explained and made obvious throughout course

18. A general rating of the teacher

Consider all the teachers you have had in the University and judge your teacher in comparison to them. Put your check mark on the line wherever it will best indicate the quality of this instructor.

poor	average	good	excellent	one of the best

CHECK LISTS

Below are lists of suggestions for the teacher. Put a check mark in front of those which you think he should follow for the improvement of his teaching or of the course.

19. The teacher should

__ __a. speak more loudly

__ __b. speak more clearly

__ __c. reduce the monotony of his speaking

__ __d. use fewer unfamiliar words

__ __e. present material more slowly

__ __f. make blackboard writing more legible

__ __g. leave written material on the board longer

__ __h. end class on time

__ __i. improve his personal appearance

__ __j. attempt to get more acquainted with his students

20. The teacher's effectiveness would be increased by

__ __a. more visual aids

__ __b. a mimeographed outline of the course for the student

__ __c. more tests and examinations

__ __d. fewer tests and examinations

__ __e. less emphasis on memorizing in examinations

__ __f. making assignments more clearly and understandably

__ __g. more class discussion and questioning

21. This course should

__ __a. require less work for the credit

__ __b. require more work for the credit

Please answer the next three questions in the space at the end. Thoughtful replies will be a help to the teacher and to students who follow you in this course.

22. What annoying or distracting mannerisms should the teacher try to eliminate?

23. What other suggestions can you make for the improvement of the teaching in this course?

24. What are the good things in the teaching of this course?

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